

**DECISION NOTICE  
AND  
FINDING OF NO SIGNIFICANT IMPACT**

Blue River and KP Creek Wild and Scenic River Suitability Study

USDA Forest Service, Southwestern Region  
Apache-Sitgreaves National Forests  
Alpine and Clifton Ranger Districts  
Greenlee County, Arizona

**DECISION NOTICE**

**Action and Its Purpose**

The Forest Service has conducted an environmental analysis to evaluate the suitability of four eligible river segments of the Blue River and one eligible river segment of KP Creek (a tributary to the Blue River) on the Apache-Sitgreaves National Forests in Arizona for inclusion into the National Wild and Scenic Rivers System. The analysis was conducted pursuant to section 5(d)(1) of the Wild and Scenic Rivers Act. The analysis is described in the *Environmental Assessment for Blue River and KP Creek Wild and Scenic River Suitability Study*. The suitability of these river segments is being considered at this time due to a proposal to construct a channel-spanning fish barrier in segment 4 of the Blue River on the Clifton Ranger District. KP Creek has been included in this analysis because it is a tributary to Blue River above the barrier site that supports a valuable native fishery. Both Blue River and KP Creek were identified as potential eligible rivers in the Resource Information Report, Potential Wild-Scenic-Recreation River Designation, National Forests in Arizona (USFS 1993) and confirmed as eligible in the Eligibility Report for the National Wild and Scenic Rivers System (Apache-Sitgreaves NF 2009).

In response to the USDI Bureau of Reclamation's (BOR) proposal to build a channel-spanning fish barrier in the Blue River, I conducted an analysis of the potential effects on Blue River's free-flowing characteristics (Appendix C). The analysis determined that the proposed barrier would affect the free-flowing character of Blue River. BOR's proposed barrier is a conservation measure to protect federally listed threatened and endangered fishes, as required by the U.S. Fish and Wildlife Service's 2008 Biological Opinion for the Central Arizona Project.

Suitability provides the basis for determining whether to recommend a river as part of the National Wild and Scenic Rivers System. It is designed to answer the following questions:

- Should the rivers' free-flowing character, water quality, and outstandingly remarkable values (ORVs) be protected, or are one or more other uses important enough to warrant doing otherwise?
- Will the rivers' free-flowing character, water quality, and ORVs be protected through designation? Is designation the best method for protecting the river corridors?
- Is there a demonstrated commitment to protect the river by any nonfederal entities that may be partially responsible for implementing protective management?

This analysis is programmatic; that is, no specific on-the-ground actions are proposed or examined. The analysis of environmental effects addresses the potential changes in management which may occur if the eligible river segments are found suitable or unsuitable for designation into the National Wild and Scenic Rivers System. It includes a general discussion of the effects if any or all segments are subsequently designated by Congress.

### **Decision and Rationale**

My decision is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, Secretary of Agriculture, and the President of the United States. Congress has reserved the authority to make final decisions on designation of rivers as part of the National Wild and Scenic Rivers System.

Based on the results of the analysis documented in the *Environmental Assessment for the Blue River and KP Creek Wild and Scenic River Suitability Study*, including public scoping and comments, it is my decision to select Alternative 3 which will also amend the Forest Plan (EA at page 45). The selected alternative (Alternative 3) was developed based on: comments that emphasized collaborative efforts with other agencies and local stakeholders; potential for water resource development (including the proposed fish barrier construction); consistency with other plans including the recovery plan for loach minnow (USFWS 1991), the Apache-Sitgreaves Land and Resource Management Plan (USFS 1987), and the Arizona State Wildlife Action Plan (AGFD 2006); and on the key issues described in the environmental assessment.

In determining which river segments are suitable for recommendation in this decision, I placed the heaviest weight on the following key suitability criteria and factors:

- The consistency of designation with other agency plans and programs and, particularly, the biological opinion issued by the U.S. Fish and Wildlife Service for the Central Arizona Plan with its focus on recovery of loach minnow and Chiricahua leopard frog.

- The potential for construction of the proposed fish barrier in the lowermost portion of Segment 4 of Blue River.
- The interest in designation or nondesignation by other federal agencies, state, local and tribal governments, and national and local publics.
- Ability to protect regionally and nationally significant values.

As a result, I am recommending Blue River Segments 2, 3 and 4a and the eligible segment of KP Creek for designation. I am not recommending Blue River Segments 1 and 4b. My rationale follows.

Blue River – Segment 1. This 25.1 mile segment begins at the confluence of Campbell Blue and Dry Blue Creeks and flows downstream through the Smith Place to Bear Creek. This segment contains ORVs of scenery, recreation, geology, fish, wildlife, historic resources, prehistoric resources, and vegetation. It is classified as recreational.

Approximately 17% of the acreage of this segment is privately owned, creating a pattern of mixed private and federal ownership. Collaborative planning efforts between local citizens, including the Upper Eagle Creek Watershed Association, the USDI Fish and Wildlife Service (Arizona Ecological Services Office), Arizona Game and Fish Department, USDI Bureau of Reclamation, and USDA Forest Service (Apache-Sitgreaves National Forests) have been ongoing to facilitate working together on watershed improvement, riparian improvement, and native fisheries restoration in the Eagle Creek and Blue River watersheds on non-Tribal lands within the watershed.

I am not recommending this segment due, in part, to landowner concerns and because the important river values are protected on these lands through County zoning and landowner stewardship as evident in existing collaborative planning efforts. Significant portions of the National Forest System lands are located in the Blue Range Primitive Area, which is managed to emphasize wilderness recreation, while maintaining wilderness resource values.

Blue River – Segments 2, 3 and 4a. Segment 2 is 16 miles, beginning at Bear Creek and flowing downstream to ¼ mile above the Blue River Trailhead. It is classified as wild. Segment 3 is 4.2 miles, beginning ¼ mile above the Blue River Trailhead and flowing to ½ mile below Forest Road 475. It is classified as scenic. Segment 4a is 7.34 miles, flowing from ½ mile below Forest Road 475 to 0.76 miles above the confluence of the Blue River with the San Francisco River. It is classified as wild. These segments contain ORVs of scenery, recreation, geology, fish, wildlife, historic resources, prehistoric resources, and vegetation. All three segments are entirely National Forest System lands.

KP Creek: The KP Creek segment, which is 11.3 miles, begins near the Mogollon River and flows to the private land boundary in section 11, township 2

north, range 30 east. This segment contains ORVs of scenery, recreation, fish and wildlife. It is classified as wild, and is entirely National Forest System lands.

I am recommending Blue River segments 2, 3, and 4a, and KP Creek to provide additional focus on protecting aquatic resources, consistent with recovery plans, and to protect their free-flowing condition and other important values for the long term.

The potential benefits of designation include, but are not limited to, the development of a comprehensive river management plan to determine what additional direction is necessary to protect river values on these National Forest System lands. This planning process also provides the opportunity to promote public participation in developing goals for river protection and to identify technical assistance for river conservation for activities within the river corridors and elsewhere in the watershed.

While most activities on Federal lands within the river corridors may continue, as they are generally protective of river values, designation affords certain legal protections from adverse development. The Act prohibits the construction of dams and other federally assisted water resources projects judged to have an adverse effect on river values. It also withdraws Federal lands within wild classified segments from locatable and leasable mineral entry.

Portions of segment 2 and portions of KP Creek are in the Blue Range Primitive Area. This Area was designated by the Secretary of Agriculture in 1933 with direction to manage the included lands to emphasize wilderness recreation, while maintaining wilderness resource values. However the Administrative designation of the Blue Range Primitive Area allows for water resources projects that do not involve road construction and the Area is not withdrawn from either locatable or leasable mineral entry. If these segments are subsequently included in the National System, the Act will provide permanent additional protection.

I also considered other rivers which have been included in the National System that flow partly or entirely in areas protected by other designations including wilderness and other congressionally designated areas. Congress designated such rivers in recognition of their important river-related values and provided explicit direction in the Act to manage wild and scenic rivers flowing in wilderness by the most protective provisions of either law. Other overlapping designations are managed so as to be most protective of river values.

Blue River – Segment 4b: This approximate ¾ mile segment includes the location of the proposed fish barrier. While it has the same important ORVs as the upper river and is free-flowing, the critical need to implement conservation measures to protect loach minnow and Chiricahua leopard frog, and to allow for

future repatriation of roundtail chub and spokedace is more important than protecting the free-flowing condition of this short segment.

I am not recommending this segment because of the intent of and clear direction in the Wild and Scenic Rivers Act as mirrored in Forest Service policy (FSH 1909.12, Chapter 80) which would not allow construction of the fish barrier as proposed by the BOR. This does not imply that every proposed fish barrier is precluded in a study or designated river. To the contrary, those structures that mimic existing stream features may not be judged to adversely affect a river's free-flowing condition or other values. However, for any fish barrier judged to adversely affect a river's free-flowing condition, neither the Act nor agency policy allows for balancing its benefits with the negative effects. Based on my review of the contents of this environmental assessment, I am choosing to allow for the potential future construction of the barrier.

### **Forest Plan Amendment**

As part of this decision, I am amending the Apache-Sitgreaves National Forests Plan. This amendment provides direction to manage the eligible and suitable river corridors in accordance with agency policy and procedures, which are intended to protect or enhance river values (free-flowing condition, water quality and ORVs), as well as each segment's classification (FSH 1909.12, Chapter 80). This amendment clarifies the management requirements.

### **Alternatives Considered**

The alternatives compared in detail included Alternative 1(a No Action Alternative that would defer suitability determination); Alternative 2 (No Segments Suitable and Recommended); Alternative 3 (Some Segments Suitable and Recommended), and Alternative 4 (All Segments Suitable and Recommended). Additional alternatives were considered in Chapter 4, but eliminated from detailed study. These were a) study just a portion of the Blue River, and b) study all eligible rivers in the watershed.

I did not select the No Action Alternative, or Alternatives 2 and 4, because those alternatives would not best meet the need to best protect federally listed threatened and endangered fish species. Specifically Alternative 2 would preclude the benefits of designation which provides the river manager tools or mechanisms to protect free-flowing conditions and river-specific outstandingly remarkable values. Alternative 4 would preclude the construction of the proposed fish barrier and not help to meet key conservation measures of the Central Arizona Project Biological Opinion, which triggered this suitability study.

I also considered studying other eligible rivers in the watershed through this analysis. This alternative was eliminated from a detailed study so as to limit the

size of the analysis area and increase the agency's ability to make a decision responsive to the BOR's barrier proposal in a timely manner. The BOR needs to sequentially make its site-specific decision whether or not to construct the barrier or risk time-sensitive funding.

## **Public Involvement**

On January 30, 2009, a scoping letter describing the proposed action and seeking public comments was mailed to approximately 1,730 groups, individuals, and agencies in the area served by the Apache-Sitgreaves National Forest, requesting comments on the proposed action and scope of the NEPA analysis. The notice and scoping letter were placed on the forest's website in February 2009. The proposed action was also listed on the forest's Schedule of Proposed Actions (SOPA) on January 1, 2009. The Forest Service also hosted public meetings on March 21, 2009, in Blue, Arizona, and on March 28, 2009, in Clifton, Arizona

Approximately 95 unique responses and three different form letters, totaling over 1900 submissions, were received in response to the scoping notice. Four key issues were identified, and four suitability alternatives were developed to address them. The issues are:

- Issue 1 – Designation Offers Long-term Protection
- Issue 2 – Designation Could Have Economic Impacts
- Issue 3 – Designation May Preclude, Limit or Enhance Uses and Activities on Private and Public Lands
- Issue 4 – Current Management and Collaboration

In early August 2010, the pre-decisional environmental assessment was provided to parties who had expressed interest in the project. The public was also notified of the opportunity to comment for 30 days on the proposal through publication of a legal notice in the *White Mountain Independent* (the newspaper of record) on August 6, 2010. The proposal was also made available on the Apache-Sitgreaves National Forests website. The comment period closed on September 7, 2010. The Forest received 34 timely comment letters from individuals, organizations, one state agency, and several tribes. Two letters were received after the comment period closed.

## **Tribal Consultation**

The Forest Supervisor contacted 9 tribes and pueblos in July, 2010, to inform them of the progress of the analysis and the upcoming public comment period which would allow them to thoroughly examine and comment on the environmental analysis and suitability assessment. The following comments were received from the tribes:

Hopi Cultural Preservation Office: Recognition of the rich history of human occupation in and near the study corridors over the course of thousands of years. Support for Alternative 4 to find all segments suitable and recommended for inclusion in the NWSRS.

White Mountain Apache Tribe: The proposals for suitability will not have an effect on the White Mountain Apache Tribe's Cultural Heritage Resources and/or historic properties.

Yavapai-Prescott Indian Tribe: The project area is outside Yavapai Territory with no concerns for effects to Traditional Cultural Properties. The Tribe defers to other consulted tribes.

All comments from individuals, business owners, organizations, one state agency and the tribes were carefully read and analyzed. The comments expressed a range of perspectives, values, and interests, which were considered in making this decision.

## **Finding of No Significant Impact**

Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, and based upon the analysis presented with the attached final *Environmental Assessment for Blue River and KP Creek Wild and Scenic River Suitability Study*, I have determined that this is not a major federal action, individually or cumulatively, and it will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not warranted. The determination is based upon the following findings documented in the EA and Project Record.

I have considered the significance of the effects of this project upon the quality of the human environment in terms of both context and intensity of those effects.

### **A. Context**

This is a programmatic decision that by itself does not make international, national, regional, or statewide decisions. The effects of the decision are limited to the locale of the described area. The decision to determine which segments of Blue River and KP Creek are suitable for inclusion into the National Wild and Scenic Rivers system is within the context of local importance in the area associated with the Apache-Sitgreaves National Forests.

### **B. Intensity**

The following discussion is organized around the ten significance criteria described in the NEPA regulations at 40 CFR 1508.27, which are used to determine intensity.

1. Both *beneficial and adverse impacts*, including cumulative effects, were considered in the analysis (EA Chapter 5 pages 47-95). The programmatic decision will not significantly affect any resource.
2. Because this is a programmatic decision with no on-the-ground effects, there will be no effects to public health and safety.
3. Known *unique characteristics* are associated with the analysis area, as exemplified by the outstandingly remarkable values identified for the eligible river segments. There will be no significant effects to the unique characteristics of the area. The proposed forest plan amendment will continue to emphasize and implement policy to protect the rivers' free-flowing characteristics, ORVs, and classification, with the exception of 25.1 miles in segment 1 (where local zoning, collaborative efforts, and the Clean Water Act will provide continued protection) and 0.76 miles of segment 4 of Blue River. The analysis will not affect the Blue Range Primitive Area, or the Centerfire, Nolan, Pipestem, and Lower San Francisco Inventoried Roadless Areas. The analysis will not affect wetlands, floodplains, or other unique characteristics within the geographic analysis area.
4. There is no known controversy regarding the effects of this proposal on the quality of the human environment, based on the analysis and public comments received, as documented in the content analysis report in the project record and summarized in Chapter 1 of the EA. There is no known scientific controversy regarding the effects of this proposal on the quality of the human environment.
5. There are no known effects upon the human environment that are highly uncertain or involve unique or unknown risks.
6. This is not a precedent-setting decision. Wild and scenic river suitability is a preliminary administrative recommendation subject to additional within-agency and Departmental review. Congress may or may not act on the resulting recommendation and will consider additional public comments if a bill is subsequently introduced.
7. Cumulative effects were considered in the environmental assessment (EA Chapter 5 and pages 47-95). There will not be a significant cumulative impact from this analysis individually or in concert with other related actions, past, present or in the foreseeable future (EA chapter 5 and pages 47-98).
8. No impacts are foreseen on any proposed or listed National Historic Places nor any loss or destruction of scientific, cultural or historic places

expected (EA Chapter 5, pages 73-76). Comments received by Indian tribes or other interested parties regarding traditional uses or significant places within the project area indicate no concerns for cultural resources. The Hopi Tribe supported designation as proposed in Alternative 4. This project is in compliance with section 106 of the NHPA, as amended, and with Section 101 (b)(4) of the NHPA

9. There are no foreseeable significant adverse impacts upon any threatened or endangered species or their habitat. Biological assessments and evaluations were completed for this project, and the USFWS concurred in a letter received on September 22, 2010.
10. Additional laws and regulations were considered. The actions implemented by this decision do not threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment. This action is consistent with the Apache-Sitgreaves National Forests Plan, except for the lack of explicit direction to manage river segments found suitable for inclusion into the National Wild and Scenic Rivers System. The Forest Plan will be amended through this decision to provide full Forest Plan consistency.

## **FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS**

**National Forest Management Act (16 USC §§ 1600-1614).** The forest plan was adopted on August 1987 and has been amended many times. The Blue River and KP Creek suitability study is consistent with the forest plan's long-term goals and objectives, forestwide standards and guidelines, including the forest plan direction to study the mainstem of the Blue River (EA at page 3). Management Indicator Species, migratory birds, and Forest Service sensitive species are addressed in the EA at pages 58-67. There will be no impacts to aquatic and semi-aquatic sensitive species, and possible beneficial effects (EA at pages 64-65). As part of this decision the Apache-Sitgreaves National Forests Plan is being amended to include Forest Handbook direction at 1909.12 (82.5) to manage river segments found suitable for inclusion in the Wild and Scenic Rivers System.

**Endangered Species Act (ESA).** ESA section 7(a)(1) directs Federal agencies to utilize their authorities to carry out affirmative conservation programs that would recover endangered and threatened species (50 CFR 402.01). This decision is consistent with this direction and, once completed, would result in greater protection for threatened loach minnow, helping meet the objectives of the 1991 Recovery Plan. And will allow for future establishment of new recovery populations of threatened spikedace and Chiricahua leopard frog. Informal consultation with the US Fish and Wildlife Service (FWS) was completed on September 22, 2010.

**National Historic Preservation Act (NHPA).** In accordance with section 101(d)(6)(B) of the NHPA, Native American tribes with traditional ties to southeastern Arizona were sent the scoping letter for the Blue River Native Fish Restoration Project in July 2010. No negative comments were received. Because the proposed action involves no ground disturbance or modifications to existing structures, it does not have the potential to affect archaeological sites or historic buildings or objects.

**Clean Water Act.** Water quality impacts are not expected under this decision (EA at pages 56-58), which has no ground-disturbing components.

**Executive Order 13186 (Migratory Birds).** There are no identified effects on migratory birds or Birds of Conservation Concern.

**Executive Order 12898 (Environmental Justice).** This decision does not impose disproportionately high adverse human health or environmental effects on minority or low-income populations (EA at pages 94-95).

## **Administrative Review or Appeal Opportunities**

### **Non-significant Forest Plan Amendment**

This amendment decision is subject to administrative review (appeal) pursuant to “*Optional Appeal Procedures Available During the Planning Rule Transition Period* “. A written notice of appeal must be filed within 45 days, with the appeal period beginning the day after the day of publication of the Legal Notice in the *White Mountain Independent* newspaper as provided for in Section 8(b)(1). The appeal must be filed in duplicate (regular mail, fax, email, hand-delivery, or express delivery) with the Reviewing Officer. There is no requirement to have submitted previous comments in order to file an appeal. Written appeals must be submitted to:

Corbin Newman, Regional Forester,  
333 Broadway SE  
Albuquerque, NM 87102

Appeals may be faxed to the Reviewing Officer at 505-842-3173. The office business hours for those submitting hand-delivered appeals are 8:00 AM to 4:30 PM, Monday through Friday excluding holidays. Electronic appeals must be submitted in a format such as an email message, Adobe Acrobat (.pdf), plain text (.txt), rich text format (.rtf), and Word (.doc) to [appeals-southwestern-regional-office@fs.fed.us](mailto:appeals-southwestern-regional-office@fs.fed.us). The appeal must have an identifiable name attached or verification of identity will be required. A scanned signature may serve as verification on electronic appeals. Names and addresses of appellants will become part of the public record. Appeals must conform to the requirements of Section 9 of the procedures. A copy of the Optional Appeal procedures may be found online at:

<http://www.fs.fed.us/emc/applit/includes/PlanAppealProceduresDuringTransition.pdf>

Suitability determinations in this document are a preliminary administrative recommendation and not a final agency action. Thus, they are not appealable. The Forest Plan amendment is appealable.

### **DECISION IMPLEMENTATION DATE**

Implementation of the Plan amendment decision shall not occur for 7 calendar days following publication of the legal notice of the decision. Requests for stays of implementation must be submitted in writing as required in Section 10 of the Optional Appeal Procedures.

## V. INFORMATION CONTACT PERSON

For additional information concerning this decision contact Genevieve Masters, Staff Officer, Apache-Sitgreaves National Forests, P.O. Box 640, Springerville, Arizona, 85938.



**Chris Knopp**

**Date**

Forest Supervisor

Apache-Sitgreaves National Forests

Southwestern Region

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United States  
Department of  
Agriculture

Forest  
Service

**Southwestern  
Region**

MB-R3-01-3

September 2010



# **Final Environmental Assessment for Blue River and KP Creek Wild and Scenic River Suitability Study**

## **Apache-Sitgreaves National Forests, Greenlee County, Arizona**



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## Acronyms and Abbreviations

Act – Wild and Scenic Rivers Act  
 ADC – Arizona Department of Commerce  
 AMP – allotment management plan  
 ARPA – Archaeological Resources Protection Act  
 ASNFs – Apache-Sitgreaves National Forests  
 AZGFD – Arizona Game and Fish Department  
 BLM – Bureau of Land Management  
 BMP – best management practices  
 BE – Biological Evaluation  
 BA – Biological Assessment  
 BO – biological opinions  
 BOR – Bureau of Reclamation  
 BR – Blue River  
 CEQ – Council on Environmental Quality  
 CFR – Code of Federal Regulations  
 cfs – cubic feet per second  
 CAP – Central Arizona Project  
 CRMP – comprehensive river management plan  
 CWCS – comprehensive wildlife conservation strategy  
 CWPP – community wildfire protection plan  
 E – endangered species  
 EA – environmental assessment  
 EIS – environmental impact statement

## Contents

EPA – Environmental Protection Agency  
EPS – Economic Profile System  
ESA – Endangered Species Act  
EXP/NE – experimental nonessential species  
FEIS – Final Environmental Impact Statement  
FERC – Federal Energy Regulatory Commission  
Forest – Apache-Sitgreaves National Forests  
FR - Forest Road  
FS – Forest Service  
FSH – Forest Service Handbook  
FSM – Forest Service Manual  
GCPZ – Greenlee County Comprehensive Plan  
GIS – Geographic Information Systems  
GPZC – Greenlee County Planning and Zoning Commission  
IRA – inventoried roadless area  
MA – management area  
MIS – management indicator species  
MSO – Mexican spotted owl  
NAICS – North America Industrial Classification System  
National System – National Wild and Scenic Rivers System  
NEPA – National Environmental Policy Act  
NF – national forest  
NFS – National Forest System  
NHPA – National Historic Preservation Act  
NRHP – National Register of Historic Places  
NRST – National Riparian Service Team  
NWSRS – National Wild and Scenic River System  
ORV – outstandingly remarkable value  
P – proposed species  
PACs – protected activity centers  
PILT – payment in lieu of taxes  
ROD – record of decision  
ROS – recreation opportunity spectrum  
SHPO – State Historic Preservation Officer  
SOPA – schedule of proposed actions  
SRSCS – Secure Rural Schools and Community Self-Determination Act  
T – threatened species  
TEP – threatened, endangered, and proposed species  
TES – threatened, endangered, or sensitive species

TMDL – total maximum daily load  
U.S.C. – United States Code  
USCB – U.S. Census Bureau  
USDA – U.S. Department of Agriculture  
USDI – U.S. Department of the Interior  
USFWS – U.S. Fish and Wildlife Service  
USGS – U.S. Geologic Survey  
WSR – wild and scenic rivers  
WSRA – Wild and Scenic Rivers Act



# Chapter 1 – Purpose and Need

## Document Structure

The Forest Service has prepared this environmental assessment (EA) in compliance with the National Environmental Policy Act (NEPA), and other relevant law, regulation, and policy. The EA discloses the predicted direct, indirect, and cumulative environmental impacts that would result from the alternatives.

The format of this document adheres to the requirements found in the Forest Service Handbook for suitability studies conducted for rivers found eligible for inclusion in the National Wild and Scenic Rivers System (FSH 1909.83(2)). This format varies from typical Forest Service environmental assessments because the analysis merges the requirements of NEPA with Forest Service policy associated with the Wild and Scenic Rivers Act (act). It includes two additional chapters (“Description of the Area” and “Findings of Eligibility and Classification”) which are necessary to describe the segments of Blue River and KP Creek eligible for inclusion into the National Wild and Scenic Rivers System (National system). The document is organized as follows:

**Chapter 1. Purpose of and Need for Action:** This chapter includes information on the history of the project proposal, the purpose of and need for the project, and the Agency’s proposed action for achieving that purpose and need. This chapter details how the Forest Service informed the public of the proposal and how the public responded. This chapter also describes key issues.

**Chapter 2. Description of the Area:** This chapter provides a description of the river corridors and surrounding area, including the status of landownership, land uses, and management activities.

**Chapter 3. Findings of Eligibility and Classification:** This chapter summarizes the existing conditions for river values for Blue River and KP Creek, including the free-flowing character and outstandingly remarkable values. Eligibility findings documented in the forest’s 2009 report (appendix B) are summarized.

**Chapter 4. Description of Alternatives:** This chapter provides a detailed description of the Forest Service’s alternative methods for achieving the stated purpose and need, and the proposed action. Alternatives were developed based on issues raised by the public, Forest Service, and other agencies. Finally, this chapter provides a summary table of the environmental consequences associated with each alternative.

**Chapter 5. Environmental Consequences:** This chapter describes the environmental effects of implementing the alternatives. This analysis is organized by resource category.

**List of Preparers:** This chapter provides a list of resource specialists involved in the preparation of the EA.

**Glossary:** A description of terms used in the document.

**References Cited:** A list of references used for the project.

**Appendix:** The appendix provides more detailed information to support the analyses presented in the EA and consists of several parts.

The project record is located in the Apache-Sitgreaves National Forests Supervisor's Office and includes all additional documentation used and developed in support of this environmental analysis.

## **Introduction**

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development.

The Forest Service is conducting an environmental analysis to evaluate the suitability of four eligible river segments of the Blue River and one eligible river segment of KP Creek (a tributary to the Blue River) on the Apache-Sitgreaves National Forests in Arizona for inclusion into the National system. This analysis is conducted pursuant to section 5(d)(1) of the act and complies with the NEPA, as amended (42 U.S.C. 4321-4346). Section 5(d)(1) requires agencies to consider and evaluate rivers on lands they manage for potential designation while preparing their broader land and resource management plans. However, Forest Service policy allows for wild and scenic river suitability studies separate from land management planning, such as this analysis (FSH 1909.12 Ch. 83.2). See map 1 in appendix A for the vicinity of the study area.

The suitability of Blue River is being considered at this time, separate from land management planning, due to a proposal to construct a channel-spanning fish barrier in Blue River segment 4, located in the Clifton Ranger District. As described below in the purpose and need for the analysis, finding this segment suitable would preclude the construction of the fish barrier. See map 2 for the location of the proposed fish barrier on Blue River.

KP Creek is included in this study because it is a tributary to Blue River and supports a valuable native fishery similar to Blue River.

This analysis is a programmatic rather than site-specific analysis. No specific on-the-ground actions are proposed or examined. The analysis of environmental effects addresses the potential changes in management which may occur if the eligible river segments are found to be suitable or unsuitable for designation into the National system.

## **Changes for the Final Environmental Assessment**

This EA was revised after the 30-day comment period to correct minor errors in text and formatting, and to update information as a result of further study and public comments. These more substantive changes are summarized below:

- Revised the narrative about numbers of private parcels and year-round residents in Blue River segment 1. See the project record for specific comments related to this topic.
- Corrected acres of management areas (MAs) in Blue River segments 1 and 4, and KP Creek, as a result of updated GIS data. Changes are reflected throughout the document and maps where MA acres are displayed or discussed.

- Updated the “Vegetation” sections in chapters 3 and 5 to include three additional sensitive plants.
- Updated species lists in the “Wildlife” sections in chapters 3 and 5, and incorporated narrative from the biological evaluation and biological assessment.
- Incorporated narrative from the biological evaluation and biological assessment to the “Fisheries” section in chapter 5.
- Updated the “Public Involvement” and “Tribal Consultation” sections to include the EA 30-day comment period.

None of the corrections or revisions to the EA changed the conclusions regarding environmental effects or suitability.

## **Background**

### **Overview of the Study Process**

The wild and scenic river study process is comprised of three steps: eligibility, classification, and suitability. Eligibility and classification represent an inventory of existing conditions. Eligibility is an evaluation of whether a river is free flowing and possesses one or more outstandingly remarkable values (ORVs). If found eligible, a river is analyzed as to its current level of development (water resources projects, shoreline development, and accessibility) and a recommendation is made that it be placed into one or more of three classes—wild, scenic or recreational.

The final procedural step, suitability, provides the basis for determining whether to recommend a river as part of the National system. It is the Forest Service’s analysis and conclusions as to whether an eligible river is a worthy addition to the National system.

The identification of a river for study through the forest planning process does not trigger any protections under the act. To manage the river for its potential inclusion into the National system, the forest plan should provide direction using other authorities to protect its free-flowing character, water quality, ORVs, and classification.

Rivers are added to the National system by act of Congress or by the Secretary of the Interior. Secretarial designation requires that a river be a part of a state river protection system and the state governor to make application to the Secretary.

### **Status of Eligibility Study on the Apache-Sitgreaves National Forests**

The “Apache-Sitgreaves National Forests Plan,” hereafter referred to as the forest plan (USDA 1987), and “Environmental Impact Statement” (USDA 1987a) evaluated segments of the Black River and its East and West Forks, Chevelon Creek, and Leonard Canyon, Clear Creek and Willow Creek as potential wild and scenic rivers. The forest plan also included direction to:

*“Study the main stem of the Blue River from its confluence with the San Francisco River upstream to its confluence with McKittrick Creek in the Blue Range Primitive Area as a candidate stream for eligibility in the Wild and Scenic*

*River System. Timber harvesting and new road construction are prohibited in the potential wild and scenic river corridor; one quarter mile each side of the stream. Also, consistent with any outstanding rights, dams, diversions, or other water resource developments are also prohibited until the study is completed. The study would be completed by 1994” (forestwide standards and guidelines, page 30).*

In 1993, at the request of the Arizona congressional delegation, the Forest Service evaluated rivers on the national forests of Arizona for their potential inclusion into the National system. This evaluation, documented in the “Resource Information Report, Potential Wild-Scenic-Recreational River Designation, National Forests in Arizona” (USDA 1993), found 22 potentially eligible rivers (totaling 374 miles) on the Apache-Sitgreaves National Forests (ASNFs). This process identified both Blue River and KP Creek as potentially eligible.

As a result of a lawsuit in 2001, the Forest Service was directed by the 9th Circuit Court to treat all rivers identified as potentially eligible on the national forests of Arizona as eligible. In conveying this opinion, the Regional Forester recommended each forest update their eligibility determinations during forest plan revision. As a result of this process, 23 rivers were found eligible, including Blue River and KP Creek (USDA Forest Service, 2009). See appendix B, “Eligibility Report for the National Wild and Scenic River System, Apache-Sitgreaves National Forests.”

The Blue River was determined to be free flowing and possessing the outstandingly remarkable values of scenery, recreation, fish, wildlife, historic, prehistoric, and vegetation. There are four eligible segments.

KP Creek was determined to be free flowing and possessing the outstandingly remarkable values of scenery, recreation, fish, and wildlife. There is one eligible segment.

The May 2009 eligibility report identified the segments and classifications for Blue River and KP Creek as noted in tables 1 and 2, and shown on map 3.

**Table 1. Blue River segments and classification**

<b>Segment</b>	<b>Description</b>	<b>Classification</b>	<b>Length</b>
Segment 1	Blue River from the confluence of Campbell Blue and Dry Blue Creeks downstream through the Smith Place to Bear Creek.	Recreational	25.1 miles
Segment 2	From Bear Creek downstream to ¼ mile above the Blue River Trailhead.	Wild	16.0 miles
Segment 3	From ¼ mile above the Blue River Trailhead to ½ mile below Forest Road (FR) 475.	Scenic	4.2 miles
Segment 4	From ½ mile below FR 475 to the confluence with the San Francisco River.	Wild	8.1 miles

**Table 2. KP Creek and classification**

Segment	Description	Classification	Length
KP Creek	One segment, from KP Trailhead to the private land boundary in section 11, T02N, R30E, approximately 1 mile northwest of the Blue River.	Wild	11.3 miles

## Management Areas on National Forest System Lands

The study corridors include six forest plan management areas as described in appendix D and shown on maps 4-8. The following section summarizes the management area emphases and acres.

### Management Area 1 – Forest Land

Emphasize a combination of multiple uses including a sustained yield of timber and firewood production, wildlife habitat, livestock grazing, watershed, and dispersed recreation. (forest plan, p. 95)

### Management Area 2 – Woodlands – Pinyon-Juniper

Emphasize firewood production, wildlife habitat, watershed condition, and livestock grazing. Other resources are managed in harmony with the emphasized resources. Manage recreation use levels at the less than standard service level. (forest plan, p. 115)

### Management Area 3 – Riparian

Riparian areas, with their high productivity and diversity, are a limited and critical ecological resource. In addition to having high timber, range, recreation, and cultural values, riparian areas are vital to the quantity and quality of habitats for fish and some wildlife species, and are basic to the hydrologic function of watersheds. Other resources uses and activities may occur to the extent that they support or do not adversely affect riparian dependent resources. (forest plan, p. 121)

### Management Area 4 – Mountain Grass

Emphasize wildlife habitat and visual quality, especially big game winter range. (forest plan, p. 128).

### Management Area 8 – Blue Range Primitive Area and Additions

Emphasize wilderness recreation while maintaining wilderness resource values. (forest plan, p. 142).

### Management Area 18 – Sandrock

Emphasize the recovery of this critical watershed. In addition, emphasize management of the loach minnow (*Tiaroga cobitus*) and black hawk (*Buteogallus anthracinus*). (forest plan, p. 181).

**Table 3. Management area acres by river segment**

River Segment	Management Area (acres)					
	1 Timberlands	2 Woodlands Pinyon - Juniper	3 Riparian	4 Grasslands	8 Blue Range Primitive Area	18 Sandrock
1	570	1,952	764		3,891	
2					3,922	1,033
3		69				1,203
4a <sup>1</sup>		951	972			135
4b <sup>1</sup>		228	52			
Total Seg. 4		1,179	1,024			135
KP Creek	220			113	3,253	
Total	790	3,200	1,788	113	11,066	2,371

<sup>1</sup>Segment 4a is the upper section found suitable in alternative 3. Segment 4b is the lower section found unsuitable in alternative 3.

## Purpose of and Need for Action

The purpose and need for this study is to determine if the eligible portions of the Blue River and KP Creek should be recommended to Congress for inclusion into the National system. The need to conduct the study at this time is to inform the analysis of the proposed construction of a channel-spanning fish barrier in Blue River. In response to the fish barrier proposal, Forest Service resource specialists conducted an analysis of its potential effects on the Blue River’s free-flowing condition and found it would affect the free-flowing character. See appendix C for the free-flow analysis conducted for the proposed fish barrier. The USDI Bureau of Reclamation (BOR) proposed the barrier as a conservation measure to protect federally listed threatened and endangered fish species as required by the U.S. Fish and Wildlife Service’s (USFWS) biological opinion (USDI Fish and Wildlife Service 2008).

This study evaluates the suitability of Blue River and KP Creek in a timeframe necessary for the BOR’s compliance with the USFWS biological opinion. See the “Fisheries Resources” section in chapter 5 for more information.

## Proposed Action

The proposed action is to determine which, if any, of the Blue River and KP Creek eligible segments are suitable for inclusion into the National system. The suitability study is designed to answer the following questions, which the responsible official would consider in conjunction with the effects analyses for each alternative:

- Should the river’s free-flowing character, water quality, and ORVs be protected, or are one or more other uses important enough to warrant doing otherwise?

- Would the river’s free-flowing character, water quality, and ORVs be protected through designation? Is it the best method for protecting the river corridor? In answering these questions, the benefits and impacts of WSR designation must be evaluated and alternative protection methods considered.
- Is there a demonstrated commitment to protect the river by any non-Federal entities that may be partially responsible for implementing protective management?

For those eligible segments found to be suitable, the ASNFs forest plan would be amended to include the following forestwide standard:

*“River segments found suitable for inclusion in the National Wild and Scenic Rivers System would be managed in accordance with interim management guidelines for suitable rivers found in Forest Service Handbook 1909.12 (82.5).”*

Segments found to be unsuitable for inclusion in the National system would continue to be managed in accordance with the management area direction found in the ASNFs plan and other applicable guidance.

## Scope of the Analysis

This environmental analysis determines only whether or not the eligible river segments are suitable for inclusion into the National system. Eligibility, including the river’s ORVs, and segment classification were identified in an earlier analysis (appendix B). The study boundary extends one-quarter mile from each streambank, consistent with the interim management corridor for an eligible river (FSH 1909.12, 81.3).

## Decision Framework

The environmental analysis considers issues and alternatives raised by the public and other agencies and identified by the Forest Service, and discloses the effects of the alternatives. Based on this analysis, the ASNFs forest supervisor (responsible official) would determine:

1. Which, if any, of the eligible river segments under consideration are suitable and should be recommended to the Congress of the United States for inclusion in the National system?
2. What, if any, additional direction is necessary to provide protection consistent with Agency policy (FSH 1909.12, 82.5) for suitable river segments.

## Public Involvement

A scoping letter describing the proposed action and seeking public comments was mailed to approximately 1,730 groups, individuals, and agencies on January 30, 2009, with comments requested to be returned by February 16, 2009. In response to early comments by the public, the initial comment period was extended to March 28, 2009. The public was informed of this extension with a letter mailed and dated March 6, 2009. The Forest Service also hosted public meetings on March 21, 2009, in Blue, Arizona, and on March 28, 2009, in Clifton, Arizona, to further engage interested groups and individuals, provide information, and answer questions about the suitability study. The public was invited to comment on the proposed action, identify

potential conflicts or benefits, and provide any relevant information that would be useful in the subsequent environmental analysis.

In addition to mailing the scoping letter to interested groups and individuals, notice of the proposal was published on the ASNFs Schedule of Proposed Actions (SOPA) beginning on January 1, 2009, and the scoping letter and further information was posted on the forest's Web site in February 2009.

The Forest Service received approximately 95 unique responses from interested individuals, groups, and agencies, and three different form letters which were submitted 37, 325, and 1,638 times, respectively. The Forest Service also received two petitions. Comments were submitted via letter, email, and FAX.

The 30-day review and comment period for the EA began with publication of the legal notice in the White Mountain Independent on August 6, 2010. The forest's public involvement efforts also included publication of the EA and maps on the Internet, and assigning staff dedicated to ensuring that the public's information requests during the comment period were addressed promptly.

The ASNFs received a total of 34 comment letters during the comment period, and two letters after the comment period closed on September 7, 2010. Letters came from individuals, business owners, organizations, one state agency, and several tribes. The letters, along with a "Summary of Public Comment" report are available in the project record. The report describes the process used to assess and consider the public comments and includes the Forest Service's responses to public concerns.

## **Tribal Consultation**

The forest supervisor contacted Fort McDowell Yavapai Nation, Hopi Tribe, Navajo Nation, Pueblo of Zuni, San Carlos Apache Tribe, Tonto Apache Tribe, White Mountain Apache Tribe, Yavapai-Apache Tribe, and Yavapai-Prescott Tribe in July of 2010 to inform them of the progress of the analysis and the upcoming public comment period, which would allow them to thoroughly examine and comment on the environmental analysis and suitability assessment. The following comments were received:

Hopi Cultural Preservation Office: Recognition of the rich history of human occupation in and near the study corridors over the course of thousands of years. Support for alternative 4 to find all segments suitable and recommended for inclusion in the NWSRS.

White Mountain Apache Tribe: The proposals for suitability will not have an effect on the White Mountain Apache Tribe's cultural heritage resources and/or historic properties.

Yavapai-Prescott Indian Tribe: The project area is outside Yavapai Territory with no concerns for effects to traditional cultural properties. The tribe defers to other consulted tribes.

## **Key Issues**

Comments received during scoping were examined for key issues, defined as unresolved effects directly or indirectly caused by implementing the proposed action. Comments were also reviewed to determine if they might be addressed in a suitability factor. The Council for Environmental

Quality (CEQ) NEPA regulations require the following delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." Nonsignificant issues were identified as those: (1) outside the scope of the proposed action; (2) already decided by law, regulation, forest plan, or other higher level decision; (3) irrelevant to the decision to be made; or (4) conjectural and not supported by scientific or factual evidence. The list of issues from scoping comments and reasons regarding their categorization can be found in the project record.

## **From the Topics Raised During Scoping, the Forest Supervisor Identified the Following Key Issues**

### **Issue 1 – Designation Offers Long-term Protection**

Some people commented that they would like to see river segments designated into the National system as a way to ensure long-term protection for instream, shoreline, and upland resources. Designation would provide statutory protection from the harmful effects of water resources projects, require a comprehensive river management plan to develop direction to protect and enhance values on Federal lands, and provide for voluntary technical assistance to other entities including landowners and other partnership opportunities to help protect values on non-Federal lands.

Alternative 4 (all segments suitable and recommended) addresses this issue.

**Issue Indicator** – River segments found suitable or unsuitable and the associated impacts to river values.

### **Issue 2 – Designation Could Have Economic Impacts**

Some people expressed concern that designation of eligible river segments could potentially reduce property values, increase Forest Service administration and acquisition costs, and reduce the tax base and payments to the county.

Alternative 2 (no segments suitable and recommended) and alternative 3 (some segments suitable and recommended) address this issue.

**Issue Indicators** – Economic impacts to the Blue community area and Greenlee County; USFS costs of developing the CRMP and administering designations.

### **Issue 3 – Designation May Preclude, Limit or Enhance Uses and Activities on Private and Public Lands**

Some commented that designation would restrict activities such as water withdrawal, grazing, road repair, and rehabilitation and restoration activities conducted on private and public lands, resulting in degradation and loss of natural and cultural resources.

Alternative 2 (no segments suitable and recommended) and alternative 3 (some segments suitable and recommended) address this issue.

**Issue Indicators** – Types of activities, including resource protection activities, affected by designation.

#### **Issue 4 – Current Management and Collaboration**

Some commented that designation is unnecessary to ensure river protection and duplicative of existing collaborate efforts to protect values on Federal and non-Federal lands. They believe existing law, regulation, and policy, in conjunction with these collaborative efforts between agencies and citizens, would continue to ensure protection of river values.

Alternative 1 (no action) and alternative 2 (no segments suitable and recommended) address this issue.

**Issue Indicator** – Existing mechanisms to protect free-flowing condition, water quality, and ORVs.

## Chapter 2 – Description of the Area

This chapter provides a description of the river corridors and surrounding area, including the status of landownership, land uses, and management activities. Detailed descriptions of resources identified as outstandingly remarkable values are included in chapters 3 and 5.

The Blue River and KP Creek eligible segments are located within Greenlee County, Arizona; segment 1 of the Blue River begins near the eastern boundary of Greenlee County, adjacent to Catron County, NM, with all four segments subsequently flowing south-southwest to the San Francisco River. The eligible segment of KP Creek begins near U.S. 191 in Greenlee County and flows east to the Blue River near the end of Blue River segment 1. See map 3 in appendix A.

### Regional Setting

The headwaters of the Blue River watershed are in the physiographic setting of the Colorado Plateau. The river cuts down through a geological transition zone with the lower portion in the basin and range of southern Arizona. The watershed is approximately 396,105 acres and lies within the greater Gila River basin, which flows west from headwaters in New Mexico until it meets the lower Colorado River at Yuma, Arizona. The Blue River flows for approximately 53 miles before it flows into the San Francisco River. The San Francisco River lies primarily east of the Blue River and is a major tributary of the upper Gila River. In addition to the San Francisco River, significant tributaries of the Gila River include the Salt River, San Pedro River, Santa Cruz River, Verde River, and Agua Fria River. The majority of the Blue River watershed is part of the Apache-Sitgreaves National Forests in Arizona, with approximately 28,100 acres within the Gila National Forest in New Mexico.

Map 9 in appendix A displays the study corridors, special areas, topography, and other features within the upper and lower 5<sup>th</sup> code Blue River watershed.

### General Description – Blue River

**Location:** The legal description of the river includes Township/Ranges: T01N, R30E; T01N, R31E; T02N, R30E; T02N, R31E; T03N, R30E; T03N, R31E; T04N, R31E; T04N, R32E, Gila and Salt River Meridian and T01S, R31E; T02S, R30E; T02S, R31E, Gila and Salt River Meridian.

The Blue River is divided into two Fifth Hydrologic Unit watersheds (1504000403 Upper Blue River and 1504000407 Lower Blue) which together form one large relatively undisturbed watershed when compared to other watersheds on the Apache-Sitgreaves National Forests. The Blue River watershed extends over a significant elevational difference between the top of the watershed near Alpine, Arizona, and its mouth at the San Francisco River. The highest point in the watershed is near the Mogollon Rim at approximately 9,400 feet (2,865 meters), while the mouth of the watershed lies at 3,683 feet (1,177 meters).

Overall, the landscape of the eligible Blue River corridor studied in this analysis includes a diversity of textures, colors, and forms which create striking views everywhere along the river corridor. Boulders, rocks, and sediments from the side canyons contribute to the mainstem river bottom. The river corridor varies from wide flood plains separated by narrow box canyons to wide or narrow sandy river bottoms to a relatively narrow canyon with towering canyon walls. Slumps and fault lines are visible in places like the Blue Box. The river cuts through dark lava

flows, red walls, white volcanic ash, and rock-studded conglomerate. In places, water flows through narrow, almost slotlike reaches and elsewhere through wide and meandering flood plains.

The uppermost 13 miles of the Blue River flow through management areas designated by the 1987 forest plan as forest and woodland, with management emphasis on multiple uses. The river then flows for approximately 23 miles through the Blue Range Primitive Area. The Blue Range Primitive Area is managed to emphasize wilderness recreation, while maintaining wilderness resource values. The forest plan currently prohibits timber harvesting and new road construction in the potential wild and scenic river corridor (one-quarter mile on each side of the stream) from the San Francisco River upstream to the confluence with McKittrick Creek in the Blue Range Primitive Area. This country contains a wide range of ecological communities from semidesert grassland below the Mogollon Rim to high mountain forests above the rim. It is primarily composed of woodlands, interior chaparral, and grasslands, with ponderosa pine and mixed conifer found in the higher elevations. The Mogollon Rim traverses the area west to east while the Blue River and its rugged canyon run north to south. Rolling terrain, unique rock formations, and rough, precipitous canyons characterize the landscape of this area. A 17-mile portion of the lower river below the Blue Range Primitive Area is closed to motorized vehicle use.

The Blue River is adjacent to the Centerfire, Nolan, and Pipestem Inventoried Roadless Areas (IRAs), and within and adjacent to the Lower San Francisco IRA. Wildlife and fisheries values are significant in this relatively remote watershed and are briefly described in chapter 3. Of the 21 fish species native to the Gila River basin, the Blue River is occupied by 6 native fishes, including the loach minnow (*Tiaroga cobitis*), which is listed under the Endangered Species Act as threatened and is at high risk of extinction in the Southwest. Additional fisheries information is provided in chapter 5.

Recreation opportunities include picnicking, camping, swimming, canoeing, and hiking. The area is used by licensed and permitted outfitters and guides for hunting and fishing. There are also opportunities for mountain biking along Forest Road 281, which parallels and crosses the Blue River. Many trailheads provide non-motorized access to the Blue Range Primitive Area. Developed recreation opportunities include the Upper Blue and Blue Crossing Campgrounds.

Where the river flows through the Blue Range Primitive Area, hiking, backpacking, camping, horse packing, and hunting all occur along the river and its canyon corridors. However, it's very remote, vast, and undeveloped so it offers a primitive recreation experience unlike elsewhere in the State. The Blue River Trailhead is located 3 miles south of the Blue Range Primitive Area boundary.

### **General Description – KP Creek**

**Location:** The legal description of KP Creek includes Township/Ranges: T02N, R30E; T03N, R29E; T03N, R30E, Gila and Salt River Meridian.

KP Creek is located approximately 30 miles upstream from the mouth of Blue River. KP Creek originates near the Mogollon Rim close to U.S. Highway 191. Forest Road 55 provides access to upper KP Creek and KP Trail 70, thereby providing access to other trails. From its origin it flows generally east and southeast for approximately 13 miles to the Blue River, however, the eligible segment is 11.3 miles from the KP Trailhead to the private land boundary in section 11, T02N, R30E, approximately 1 mile northwest of the Blue River.

Approximately 2,378 acres of the KP Creek river corridor, or two-thirds of its length, lie within the Blue Range Primitive Area. A portion of the creek also flows through lands that were identified in the 1987 forest plan as potential additions to the Blue Range Primitive Area. Except for one private parcel in the lower mile outside of the study corridor, KP Creek is public land managed by the Apache-Sitgreaves National Forests.

The scenery is widely diverse. Upper KP Creek rushes down a steep, thickly-forested canyon with lush riparian vegetation. Two small waterfalls can be seen from KP Trail, which follows the creek downstream. Additional waterfalls are found about 7 miles downstream, but these are located off the trail. Grassy flats contrast with large, old-growth ponderosa pines and provide views into deep pools and across to canyon walls. This river was noted for its native trout populations as far back as 1904, and is proposed for introduction of Gila trout within the next 5 years.

The dense vegetation and large down logs make the river corridor prime habitat for black bear and blue (dusky) grouse, both species which require high quality habitat. Bobcat and mountain lion frequent this unroaded, wild country. Mule deer can be spotted; Coues deer are occasionally seen in the lower elevations. Several Mexican spotted owl pairs have territories along the river corridor, and in the late winter and early spring pairs may be heard calling. The riparian corridor provides habitat for small mammals such as voles and mice, important owl prey species. Migratory birds that use high elevation riparian areas include MacGillivray's, red-faced, and yellow warblers. The yellow-breasted chat may use the lower elevation portion of the river corridor. Other wildlife species along the river segment include Rocky Mountain elk, Albert's squirrel, long-tailed weasel, and coyote. The lower 5 miles of KP Creek are part of the identified Blue River Complex Important Bird Area.

KP Creek provides opportunities for hiking, fishing, backpacking, and horseback riding. The two small waterfalls about 3 miles downstream from KP Cienega Campground are a popular day hike destination. Licensed and permitted outfitters and guides operate hunting and fishing trips along KP Creek. Approximately 3,253 acres have been classified as wilderness-primitive recreation niche, providing recreation opportunities of solitude and remoteness.

## Landownership

Map 10 in appendix A displays the landownership in Blue River segment 1.

The following information is based on a one-half mile corridor (one-quarter mile from each streambank). The majority of the Blue River and all of the KP corridors are located on National Forest System (NFS) lands.

Of the approximately 8,032 acres within this 25.1 mile segment, there are 1,367 (17 percent) acres of private land and 6,665 (83 percent) acres of NFS lands. The private parcels range from 36 to 160 acres and are currently zoned under Greenlee County as rural RU-36 (one dwelling unit per 36 acres).

The private land parcels are scattered along the entirety of segment 1, creating a pattern of mixed landownership. Portions of public land in this segment extend up to 4 continuous river miles, and one private section (multiple owners) extends along the river segment for approximately 5 continuous miles.

All of the land in segment 1 was originally public lands. From 1909 to 1923 approximately 14 land parcels ranging from 34 acres to 160 acres were transferred into private ownership. In addition, one public land parcel was acquired by the rural school district in 2006. Over the years some of these privately-owned parcels have been subdivided and there are now numerous landowners who own parcels of various sizes.

## Land Uses

Private land developments and uses in segment 1 of the Blue River include one rural schoolhouse, 12 homes with outbuildings, and several water diversions used primarily for irrigation. Many of the private parcels span the river. The primary consumptive water uses on private land are for irrigation, stock watering, and domestic wells and fish ponds. There are small hay fields and gardens along the Blue River valley bottom. There is road access for several year-round residents. (conversation with Myron Burnett, wilderness ranger, Clifton Ranger District). One of the private parcels has a fish hatchery which is regulated by the Arizona Department of Agriculture and has been used in the recent past by a private individual to raise nonnative rainbow trout.

NFS lands within the corridors that are outside of the Blue Range Primitive Area are managed primarily for multiple uses of timber, firewood, wildlife, dispersed recreation, or for riparian values. Management of the Blue Range Primitive Area emphasizes wilderness recreation while maintaining wilderness resource values. The designated forest plan riparian management areas are in segments 1, 3, and 4 with the priority emphasis on: (1) threatened and endangered species; (2) coldwater fisheries; (3) warmwater fisheries; and (4) all other riparian dependent resources.

## Special Use Permits

The Forest Service authorizes uses of NFS land by individuals and companies by issuing special use permits. Presently, the only known uses authorized by permit are:

- A Navopache Electric Cooperative 69 KV transmission line crossing through the southern portion of the parcel paralleling Blue River Road No. 67004.
- Several private roads which provide landowner access to their property from the main road (conversation with Ryan Domsalla, forest lands specialist). There are no active applications for any additional uses.
- Hunting and fishing outfitters and guides.

## Access and Infrastructure

There are relatively few road miles in the Blue River watershed, with most occurring in the upper watershed south of Alpine and outside of the study segments, the Blue Range Primitive Area, or the inventoried roadless areas. Forest Road 281 is a main road which parallels the river near the valley bottom from the state line in Section 5 (T4N) to private lands in Section 14 (T2N). This road provides access for local residents and for trailheads to the Blue Range Primitive Area. Within the Blue Range Primitive Area, which encompasses the upper three-quarters of segment 2, river access is nonmotorized only. The river is also closed to motorized use from the southern boundary of the primitive area south to the confluence with San Francisco River, except at the point of crossing for Forest Road 475 (Juan Miller Road).

The watershed has many trail systems, including trails for foot and horseback use that access the river in segments 2, 3, and 4. Primary access to segment 2 is via trails accessible from U.S. Highway 191 and Forest Road 35. Forest Road 475 (Juan Miller Road) provides access to segment 3 from U.S. Highway 191. Two trails leave the river segment below a road crossing in segment 4.

Two Forest Service campgrounds are located in segment 1. There is also a power line that parallels all of segment 1. There is a Forest Service administrative unit called Blue Camp in segment 1, often used as a fire crew base during fire season. A cable car and stream gauging section are located in segment 3 near Forest Road 475.

Forest Road 55 leads to KP Cienega Campground and provides the only motorized access in the KP Creek drainage. The remainder of the canyon is accessible only from several foot or horse trails. The trails include KP, North Fork KP, KP Rim, Blue Lookout, McKittrick, and Steeple. There are 7 miles of KP Trail in the study corridor of KP Creek, with 5 miles parallel to the creek. Other trail segments occurring in the study segment include less than 1 mile of the McKittrick, North Fork KP, and Blue Lookout Trails.

## Range

There are currently 11 actively grazed livestock allotments located along the Blue River and KP Creek. Nine of the allotments are managed out of the Clifton Ranger District, and two are managed out of the Alpine Ranger District.

Through a mix of previous cooperative agreements with grazing permit holders and past environmental analysis decisions, livestock grazing on Federal lands is not permitted within the Blue River and KP Creek corridors (personal communication, Reed and Hill 2008, 2010). Livestock use within the corridors has been reduced to water crossing activities and for minimal equine use through use of natural barriers and fencing. The original fencing was constructed to control livestock, prevent drift, and preserve and protect the riparian corridor for threatened and endangered species and their habitat. Livestock drift can occur and the permittee is notified and the unauthorized livestock are removed.

## Minerals

There are no active locatable mineral claims or permits for removal of salable mineral material within the Blue River watershed. Closed claims occur along the main stem of Blue River, and no closed claims occur along KP Creek. There is no leasable mineral activity in the Blue River watershed, which includes KP Creek.

None of the corridor is withdrawn from locatable or leasable mineral entry. Prospecting, locating and developing mineral resources within the Blue Range Primitive Area may occur. These activities are to be managed to minimize the effect on the area's wilderness character (36 CFR 293.17(b)).

There is a single 148-acre parcel located within Sections 19 and 30, T01S, R31E, at the north end of Blue River segment 3 that has privately owned mineral rights. A land exchange completed in 1987 allowed the seller to retain ownership of all minerals. It is possible in the future that the

owner of these minerals (presently unknown if any exist) could exercise their right to access and extract the minerals.

## **Water Management**

### **Geology and Channel Conditions**

The predominate rock type of the Blue River watershed is undifferentiated tertiary volcanics (Ratte et al., 1969). These include basalts and andesites, as well as less resistant ash flows. High angle faults are a common structure along the Blue River. Some occur singly, others in closely set parallel bands which weaken rock in the faulted zone (Inman, 2000). It is possible that the elevation of the Blue River main stem is controlled by faulting.

The valley of segment 1 consists of fossiliferous alluvial and lacustrine deposits of the middle or early Pliocene: conglomerates, sands, silts, and clays. Segment 2 is through dark, fine-grained basalts and sites locally interbedded with sedimentary material and tuff. The older volcanics may be inclined due to faulting and tilting. Segments 3 and 4 are within lighter, acidic volcanic rocks which include strata of tuff and agglomerate. These rocks are very eroded, faulted, and broken.

The geology of KP Creek drainage is volcanic in the upper segments; basalts and andesites of Quaternary to Tertiary in age, changing to epiclastics: laharic, breccias and volcanic conglomerates, sandstones and mudstones. At the confluence with the Blue River exposures are tertiary aged rhyolitic ash flow tuffs overlain by gray weathering tilted beds of conglomerate (Ratte et al., 1969).

For most of its length, Blue River is confined by bedrock in a narrow valley bottom. The channel itself is deeply entrenched in alluvial material. One-time marginal flood plains are now terraces not inundated except in very high flood stages. Where the valley is wider, in faulted zones, flood plain alluvium occupy the valley floor, the channel is poorly defined or multithreaded in a wash or braided form. It is assumed that the channel scoured and widened during the 1900s as a result of clearing of vegetation for log transport (NRST, 2000). Much of the former flood plain has been subsequently washed away, along with a road that once ran the length of the river from Alpine to Clifton and a number of habitations.

### **Water Quality**

The temperature, dissolved oxygen, pH, nutrients and fecal-coliform of Blue River has been tested by grab samples on 24 separate occasions at the USGS stream gage site in segment 3 (USGS 2008). Samples were collected during 1989-1993 at various flow levels (7 to 782 cfs). The summary of results indicate that the river meets State water quality standards for beneficial uses except for fecal-coliform, and is often well below thresholds, except during times of extreme high flow, when turbidity may exceed standards. Beneficial uses as listed by the state of Arizona (State of Arizona, 2008b) for the Blue River and its tributaries are:

- Fish consumption
- Full body contact
- Irrigation
- Livestock watering

- Warmwater fishery: segments 2, 3, and 4
- Coldwater fishery: segment 1

The State also collects water quality and fecal coliform data at various sites along the river not just at the gage to determine if listing as impaired is necessary.

The Blue River is on the State of Arizona's 2008 303(d) list as impaired for fecal-coliform from Strayhorse Creek to the confluence with the San Francisco River (State of Arizona, 2008a).

The Blue River was formerly listed as impaired for not meeting turbidity standards and a total maximum daily load (TMDL) was completed in 2001 (Stephenson and Konrad, 2001). This study concluded that the Blue River has a naturally high sediment load due to the geology of the watershed. In particular, large slumps and slides feed sediment directly to the river (Inman 2000). In addition, there is a high volume of sediments stored in terraces along the channel as well as within the channel itself. Within segments 2, 3, and 4, below 5,000 feet elevation, the Blue River was classified as a warmwater fishery which has a turbidity standard of 50 nephelometric turbidity units (NTU) versus turbidity requirements of 10 NTU for coldwater fisheries.

Water quality data shows KP Creek meeting State of Arizona standards for all appropriate beneficial uses: coldwater fisheries, full body contact, domestic water supply, human consumption of fish taken, and agricultural watering. The entire eligible segment has been classified by the state as "unique water" because of high quality.

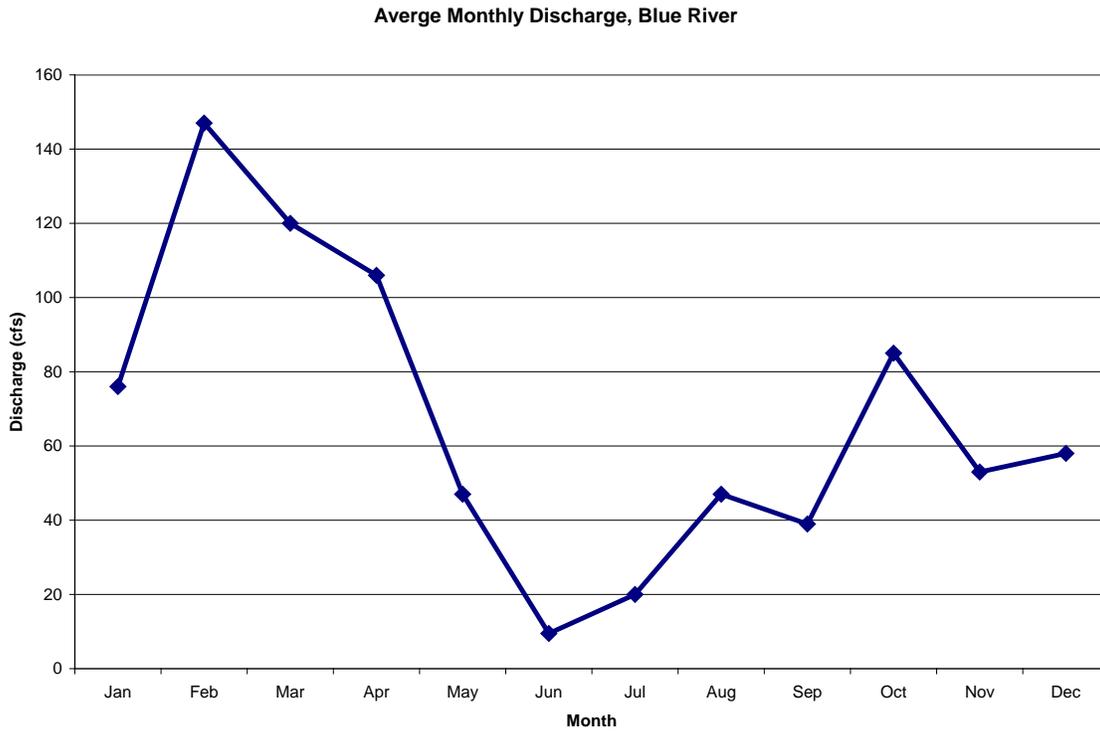
### **Instream Flow and Water Use**

The flow rate of Blue River is highly variable due to the influence of summer monsoonal rains which drive many of the higher peaks of record. Annual peak streamflow occurs typically July through October or mid-February through April, with sharp troughs in between. However, high flows may occur in any month July through April in a given year (figure 1). Other influences, beside summer monsoons, are steadier and longer lasting winter-spring storms and spring snowmelt runoff mostly generated from snowpack at higher elevations from February to April.

The Blue River is perennial, but with discontinuous flow. During drier times of the year, sections of the river go subsurface in the wider sections of the valley and flow at the surface in the narrower parts of the valley. Several tributaries are classified as perennial by the forests' GIS database. These streams are Campbell Blue, Turkey, Jackson, Foot, Grant, Lanphier, Raspberry, Strayhorse, Little Blue, Squaw, Pigeon and, of course, KP Creek.

A stream gage (USGS Station 09444200; USGS, 2008) operated in turn by the U.S. Geologic Survey and the Arizona Department of Water Resources is located at the crossing of Juan Miller Road (FR 475) in the lower portion of segment 3 (period of record; 1967 to present). Average mean daily discharge is 76.2 cubic feet per second (cfs). The maximum instantaneous peak flow on record was approximately 30,000 cfs. Minimum mean daily discharge for the period of record was 1.4 cfs.

No flow data is available for KP Creek, but average flow of the stream was estimated at 4 cfs in the 1993 report on potential wild and scenic designation (USDA Forest Service, 1993). Arizona 2006 water quality data within the Blue River watershed lists Campbell Blue River and KP Creek as attaining all uses (State of Arizona, 2008a).



**Figure 1. Average monthly flow at Blue River gage**

## Water Rights

The surface and ground waters within the Blue River watershed are used for a variety of purposes. Some of the uses are primarily nonconsumptive such as rafting, fishing, primitive area travel, and nature study. Other uses are considered consumptive. The primary consumptive uses on private land are irrigation, stock watering, domestic wells, and fish ponds. Primary consumptive water uses of the forests are for grazing management, wildlife management, fire suppression, road maintenance, and domestic use at Blue Camp Administrative Site. Some of these uses involve spring developments or use directly on undeveloped water sources. Others involve direct diversions of waters from the Blue River or from some of its tributaries. The major consumptive uses can contribute to a diminishment of flows in the Blue River and its tributaries, particularly during irrigation season which generally occurs from early spring until the start of the summer monsoon season. This coincides with a natural period of lower flows in the Blue River, especially the months of May, June and early July.

The relative rights and priorities of appropriation for diversion of waters from the Blue River and its tributaries were adjudicated in 1936 by the Superior Court of the State of Arizona in and for the County of Greenlee. Judge Darrell Ling issued Amended Decree No. 1154-B “In the Matter of the Determination of the Relative Rights to the Use of the Gila River and its Tributaries in Greenlee County” on April 27, 1936. This decree, commonly referred to as the Ling Decree, is the principal document governing the administration of water rights in the Blue River watershed (which is part of the Gila River Basin). The total allowed diversion of water from the Blue River watershed under the Ling Decree is 1,000 acre-feet per annum for irrigation of 250 acres. An acre-foot is a measurement of volume equal to an acre of land 1 foot deep.

Several additional claims that were not considered in the Ling Decree have been filed or asserted for waters diverted from the Blue River and its tributaries. To the knowledge of the forests, these claims have yet to be adjudicated in a state court. Some of the claims may duplicate claims in the Ling Decree. These additional claims for diversions involve in excess of 844.82 acre-feet of water. Therefore, between the Ling Decree and other water rights, 1,844.82 acre-feet of the Blue River, KP Creek, and other tributaries are allocated for consumptive use.

The Forest Service controls 336 acre-feet of water rights on the Blue River and Campbell Blue Creek (table 4). The Forest Service intends to transfer acquired water rights to other types and locations of use (such as instream water rights) under State law once the Arizona Department of Water Resources moratorium on processing water rights applications on Federal lands is lifted.

Assuming withdrawals would occur between April 1 and August 1, this volume constitutes a continuous withdrawal rate of 7.6 cfs, an amount close to the average mean daily flow of the Blue River at the gage site in the month of June (figure 1) and nearly equal to the July flow in the beginning of the monsoon season. Flow is discontinuous throughout the Blue River, in the lower flow months. Segment 1 is known to have been dewatered by withdrawals (C. Nelson, personal communication, April 2009).

**Table 4. Water rights on the Blue River and tributaries in acre-feet**

	Forest	Private
<b>Ling Decree</b>		
Blue River	188	316
KP Creek	0	16
Other Tributaries	148	332
<b>Other Water Rights</b>		
Blue River	0	709.12
Tributaries	0	135.7
Totals	336	1,508.8

There are two state water rights for surface withdrawals from KP Creek by private landholders at the confluence of KP Creek and the Blue River, according to the forests' records. This is a river segment just below the study segment. The withdrawals total 16 acre-feet. If assumed over an irrigation season of approximately April 1 to August 1, then the 16 acre-feet would represent a continuous withdrawal rate of 0.07 cfs. It would not appear from this information that the magnitude of surface water withdrawal from the creek would constitute an issue with the flow characteristics of KP Creek.

## Fire Management

See map 11, “Fire Management Motorized Access.”

Since 1995 a number of large wildfires have occurred in the watershed above Blue River segment 1. In the last 10 years, 62,100 acres within the Blue River watershed (16 percent of the total watershed area) have burned, not including fires of less than 500 acres. These fires did not enter the eligible corridors, burning principally in the timbered uplands. Riparian vegetation along the Blue River has not been affected by wildfire.

A long history of grazing and fire suppression has altered the vegetation composition and structure in the watershed and caused departure from the natural fire regime. A natural fire plan was first developed in 1979 for the Blue Range Primitive Area, which began a period of limited management of natural fire in the area. Recent changes in national fire policy and amendments to the forest plan have allowed a more liberal approach to managing natural fire.

Treatments including prescribed burning and thinning under various ecosystem restoration projects have been completed or are planned in these watersheds. About 20 percent of segments 2, 3, and 4 had been treated with prescribed fire by 2008.

Prescribed burning and limited thinning treatments are planned within segment 1 associated with private land along the canyon bottom. These urban interface treatments are based on the “Greenlee County Community Wildfire Protection Plan” (Greenlee County, 2005).

Blue Road (FR 281) is used to access private parcels as well as for recreation access to the Blue Range Primitive Area. Blue Road (FR 281) closely parallels the river through segment 1 and crosses the river several times including several low water crossings.

The 2004 KP Fire burned 16,091 acres including portions of the upper reaches of KP Creek within the eligible corridor.

There is limited motorized access for fire management activities. Blue Road (FR 281) which parallels the Blue River from the New Mexico-Arizona state line at its north to its terminus at Coper Ranch to its south provides the primary motorized access to segment 1. Red Hill (FR 567) and Pueblo Park (FR 232) Roads provide access to Blue Road from the west and east respectively in segment 1. Juan Miller Road (FR 475 and 475C) provides point access to the lower Blue River in segment 3. Access into the roadless and primitive areas is limited to foot or horseback travel. The forest supervisor can authorize helicopter travel in emergency situations.

## Social and Economic Conditions

The following discussion focuses on and compares the social and economic conditions of Greenlee County and the section of Greenlee County surrounding the segments being evaluated; this subsection of Greenlee County includes the community of Blue located on segment 1 of the Blue River. Except where otherwise noted, the information below is drawn from the 2009 Eligibility Report (USDA Forest Service, 2009).

## Population, Housing, and Demographics

From 1970 to 2006, the population of Greenlee County has declined approximately 29 percent, from 10,477 to 7,468 (EPS, 2009). Population declines are a function in large part of local changes in mining and the mining industry (e.g., 1980 through 1990) (Greenlee County, 2003).

The segments of Blue River and KP Creek eligible for designation are located in the northern area of the county in the vicinity of an unincorporated area (zip code 85922) which includes the community of Blue. The economic conditions within this area are likely to be influenced to some extent by the economic opportunities, dominated by the mining sector, located in the southern part of the county. However, the unincorporated area in close proximity to Blue River/KP Creek should also be viewed as economically distinct in comparison to other parts of the county. The total population for the zip code area (85922) representing the area surrounding the segments, including the Blue community, was estimated at 36 people according to the 2000 Census, a small fraction of the county population of 8,547 (U.S. Census Summary File 1, Table DP-1, Profile of General Demographic Characteristics).

An estimated 38 housing units were located within zip code 85922 in 2000, of which 21 were seasonal (Census Table DP-1), confirming that the Blue community area is highly rural and sparsely developed and suggesting that recreation, second homes, and/or tourism are significant components of social and economic conditions in the Blue community area. Approximately 4 students attend the Blue Elementary District School located in the Blue community<sup>1</sup>.

Data are not readily available to describe housing and population trends for the Blue community; however, data for a larger area encompassed by Census Tract 9901, which includes zip code 85922 and the Blue community as well as other more populated areas such as parts of Clifton (zip code 85533), indicate that population and housing units have increased substantially (59 percent and 39 percent respectively) from 1990 to 2000 compared to Greenlee County as a whole (population and housing units increased by 7 percent and 5 percent respectively). These results suggest the potential for a trend toward development and population growth for the area that includes the Blue community; however, the number of and growth in seasonal homes within Census Tract 9901 is small. Seasonal homes decreased from 79 to 55 between 1990 and 2000 for Census Tract 9901 (based on U.S. Census Table DP-1). A significant percentage of the seasonal housing units within Census Tract 9901 are located within the Blue community area zip code (i.e., 21 out of 55 seasonal housing units located in zip code 85922), but growth in seasonal/recreational housing for the area may not be significant based on the Census data for Tract 9901. Information was not obtained to characterize seasonal housing trends after 2000.

Available income data indicates no families or individuals were below the poverty level for the Blue area in 2000 (Census 2000 Table DP-3) compared to 8 percent of families below poverty in Greenlee County as a whole. The Blue area population is primarily white (31 of 36) with 6 individuals declaring themselves to be Hispanic or Latino (17 percent Hispanic) compared to Greenlee County where 43 percent are Hispanic or Latino, 2.7 percent American Indian or Alaskan Native, 0.6 percent Black/African American, and 0.4 percent Asian or Native Hawaiian/Pacific Islander (Census 2000 Table DP-1).

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<sup>1</sup> Annual Business Report (2000) for the Blue Elementary District (Arizona Department of Education) [www.azed.gov](http://www.azed.gov)

## Employment, Income, and Recreation Spending

Mining, primarily in the Clifton-Morenci-Metcalf area (Phelps Dodge Morenci Mine), has been and continues to be the primary source of employment and income in Greenlee County with the mining company Freeport McMoRan being the major employer. As of 2007, mining contributed 61 percent of county employment and 78 percent of all labor income<sup>2</sup>. In 2000, labor income from mining accounted for the greatest percentage of all personal income (just under 50 percent), followed by non-labor income (e.g., dividends, interest, payments by government to individuals such as Medicare/unemployment), and labor income from construction (approximately 17 percent of personal income each). Health services, accommodations and food services (includes tourism), and ranching/agriculture are also contributors to the county economy. Ranching on Blue River, Eagle Creek, and the “Frisco” River has contributed to the Greenlee County economy since the 1870s, and these areas are, therefore, expected to rely more on agriculture and ranching.

In general, communities that are specialized in a particular area (such as mining) are more vulnerable to larger scale economic disruptions; relatively large decreases in personal income for Greenlee County during recessions are evidence of this vulnerability. The relative significance of non-labor income (considered to be a stable source of income) helps to offset some of this vulnerability and may reflect the presence of increasing retiree populations and/or an aging population within Greenlee County; by 2006, non-labor income had grown to 31 percent of total personal income (EPS, 2009).

The section of Greenlee County surrounding the Blue River is substantially more rural as indicated by the fact that a total of only two business establishments with paid employees (one in construction and one in accommodations and food services) were recorded for the zip code area representing the Blue community (85922) in 2007, each of which employs between 5 and 9 workers. No more than two establishments are recorded for zip code 85922 between 1998 and 2007. A total of five residents in the Blue area zip code (85922) were employed in transportation/trucking and arts/entertainment/recreation (Census 2000 Table QT-P29), along with three residents employed “at home,” possibly working indirectly in ranching or agriculture. These observations are consistent with the enterprise level data noted above for 2007. Workers employed within arts/entertainment/recreation are likely associated with local outdoor outfitters and guides or campgrounds associated with the KP Creek and Blue River. There may be ranching/grazing activities within the Blue area that are not reflected in employment data due to the likelihood that some landowners or permit holders operating within the Blue community reside outside of the 85922 zip code area. There is also potential for workers to be employed in multiple economic sectors (e.g., ranching and mining) depending on season or other work conditions.

Recreation and seasonal visitors are likely to contribute to the local economy surrounding the Blue River and Blue community. Numbers of recreational visits to the Blue River and KP Creek areas are not known, beyond statements within the 1993 resource information report (USDA Forest Service, 1993) indicating that “use is estimated at about 1,500 recreation visitor days annually” for the KP Creek alone. The portion of visitor days attributable to non-locals (i.e., those

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<sup>2</sup> All employment and income data derived from aggregate 2-digit North American Industrial Classification 2007 data obtained from Federal Government sources (e.g., U.S. Bureau of Economic Analysis) via IMPLAN (Minnesota IMPLAN Group, 2003).

living more than 50 miles driving distance from the site) is not available<sup>3</sup>, however, the number is expected to be significant given knowledge about visitors traveling from Phoenix and Tucson (USDA Forest Service, 1993). Spending by non-local visitors is estimated to range from \$30 to \$60 per visitor day for activities including fishing, hunting, hiking, and biking, based on spending data for the Apache-Sitgreaves National Forests.<sup>4</sup> Spending by visitors to the areas associated with the segments being evaluated for designation suitability is, therefore, expected to contribute to local jobs and income, including those in the immediate Blue community area, recognizing that not all visitor spending would occur within the Blue community.

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<sup>3</sup> Spending by non-local visitors is a source of “new” money (i.e., recreation exports) that supports local jobs and income.

<sup>4</sup> Spending values per visitor day are derived from expenditure data (dollars per party per trip) as well as information about average party size and trip length presented in Stynes and White, 2006. Values are also based on evidence showing that visitor spending on the Apache-Sitgreaves National Forests is “higher than average” relative to other national forests (Stynes and White, 2005).



# Chapter 3 – Findings of Eligibility and Classification

## Introduction

This chapter summarizes the eligibility findings and describes the free-flowing condition, conditions of the ORVs, and classification of Blue River and KP Creek. It presents the affected environment for the values for which Blue River and KP Creek were found eligible for inclusion into the National system. Summaries of predicted environmental effects and recommendations regarding suitability are discussed in chapter 5.

Please see the “Background” section in chapter 1 as well as the Forest Service’s evaluations of eligibility and classification for Blue River and KP Creek in appendix B for details regarding the evaluation process.

## Free-Flowing Condition

The Wild and Scenic Rivers Act defines free flowing as “existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway” (Section 16(b) of the Wild and Scenic Rivers Act).

## Outstandingly Remarkable Values (ORVs)

Eligible rivers must have at least one outstandingly remarkable value. The Wild and Scenic Rivers Act identifies river values as scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, but does not further define ORVs. Forest Service resource professionals develop and interpret criteria in evaluating river values (unique, rare, or exemplary) based on professional judgment on a regional, physiographic, or geographic comparative basis. The river values discussed below are identified as outstandingly remarkable for Blue River and/or KP Creek.

## Fisheries Values

### Blue River

**Finding from the 2009 eligibility report (appendix B):** Fish species and habitat are ORVs because the Blue River contains one of the highest number of native fish species. This habitat is crucial to the survival of many native fish species.

## Existing Conditions

### Fish Assemblage

The Blue River contains a federally listed threatened fish species, loach minnow (*Tiaroga cobitis*). Loach minnow critical habitat is designated within the Blue River and several Blue River tributaries. Critical habitat within the Blue River is designated from the Blue River’s confluence with the San Francisco River, which is also critical habitat, upstream to the Blue River’s confluence with Campbell Blue and Dry Blue Creeks, a total of 51.1 miles (USDI Fish & Wildlife Service 2007). The loach minnow is restricted to 10 percent of its overall historic range (USDI Fish & Wildlife Service 2007) and the Blue River is important refugia for this species. A number of Forest Service sensitive species are also present in the Blue River eligible segments including

longfin dace (*Agosia chrysogaster*), desert sucker (*Catostomus clarki*), and Sonora sucker (*Catostomus insignis*). Speckled dace (*Rhinichthys osculus*), a non-sensitive native species, is also present. Nonnative species such as channel catfish (*Ictalurus punctatus*), flathead catfish (*Pylodictis olivaris*), red shiner (*Cyprinella lutrensis*), common carp (*Cyprinus carpio*), and nonnative trout are also present, with greater nonnative abundances in the downstream segments (3 and 4) than in the upstream segments (Clarkson et al. 2008). The Desert Fishes Team (2003) included the Gila chub (*Gila intermedia*) and roundtail chub (*Gila robusta*) as historically occurring in the Blue River.

In addition, aquatic macroinvertebrates serve as a forest management indicator species.

### **Habitat**

The Blue River area has been settled by Anglo farmers and ranchers since the 1890s. After a site visit in 2000, the National Riparian Service Team (NRST) concluded that continuous grazing, in-stream wood removal, timber harvest, log drives, road construction, channelization, and diking led to an almost complete destabilization of the Blue River (NRST 2001). NRST also concluded that there was evidence that the Blue River was recovering, especially on Forest Service administered lands (NRST 2001).

Additional stream surveys of portions of segment 3 and 4 of the Blue River were conducted in 2005 (Thornton 2007). At the time of these surveys, few of the previous human impacts were continuing within the watershed (ibid). Most of the land alongside the Blue River is now Federal and no grazing occurs on those lands. Water extraction is the largest remaining human-caused impact. The results of the 2005 survey, of segment 3 and a portion of segment 4, were similar to the NRST report; the results showed that the majority of the Blue River reaches surveyed are recovering from past degradation (ibid). A variety of habitats were found in the 2005 survey with pools making up 25 to 54 percent of wetted habitats. None of the reaches within the survey showed substantial erosion problems from fine sediments (ibid). This survey data also indicated that the appropriate habitat/primary constituent elements (USDI Fish & Wildlife Service, 2007) are available for loach minnow (low gradient, riffles, perennial flow) in portions of the eligible segments.

### **KP Creek**

Finding from 2009 eligibility report (appendix B): Fish habitat is an ORV because of the high quality habitat that supports native fish species.

### **Existing Conditions**

#### **Fish Assemblage**

It is likely that the fish assemblage in the portion of KP Creek contains native species: speckled dace and desert sucker as well as nonnative trout (USDA Forest Service, 2009). Loach minnow were detected at the confluence of the Blue River and KP Creek during the 2005 Arizona Fish and Game permanent monitoring station survey. The coldwater section of KP likely contains nonnative rainbow and Apache trout (USDA Forest Service, 2009). Nonnative, but Endangered Species Act (ESA) listed, Apache trout were transplanted into KP Creek in 1969. This population resides above a high falls barrier, likely preventing frequent movement by this species into the Blue River (Coleman pers. comm. 2009). A visual survey of KP Creek in 2009 found juvenile and

adult Apache trout-like fish. This species was observed the whole length of the survey from the headwaters of KP Creek to 2.5 miles downstream (Coleman pers. comm. 2010). Historically, KP Creek would have contained Gila trout (Coleman pers. comm. 2009). The Gila trout recovery plan specifies that KP Creek would have Gila trout reintroduced as part of a reestablishment of this species into its historic habitat (USDI Fish & Wildlife Service, 2003).

## Habitat

Stream habitat survey data is not available for KP Creek. This creek flows through a steep canyon with flow, temperature, and riparian vegetation suitable for coldwater fisheries (USDA Forest Service, 1993) which could provide suitable habitat for future Gila trout reintroductions. This stream is less accessible and smaller than Blue River which has likely lead to minimal disturbances from human sources.

## Wildlife Values

### Blue River and KP Creek

**Finding from the 2009 eligibility report (appendix B):** Wildlife species and habitat are ORVs because of the diversity of species and habitats that are found along the river corridor.

## Existing Conditions

The Blue River corridor contains important populations of federally listed threatened and endangered wildlife species, as well as Forest Service sensitive wildlife species. A wide diversity of habitats occurs in the study corridors that support these species. In addition, there are two management indicator species (MIS) that also depend on the corridor, as well as a diversity of migratory and resident songbirds.

## Threatened, Endangered, and Proposed Species

Table 5 lists the endangered (E), threatened (T), and experimental nonessential (EXP/NE) species considered for this analysis.

**Table 5. Federally listed terrestrial and riparian species considered for the Blue River and KP Creek wild and scenic suitability study**

Common Name	Scientific Name	Federal Status	Known to Occur in Study Corridors?	Potential to Occur Regularly in or Near Study Corridors?
Mexican gray wolf	<i>Canis lupus baileyi</i>	EXP/NE	YES	YES
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	YES	YES
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	NO	YES
Chiricahua leopard frog	<i>Rana chiricahuensis</i>	T	YES	YES

\*\*Habitat is not present in the study corridors. This species will not be discussed further in this document.

**Protected Activity Centers and Critical Habitat**

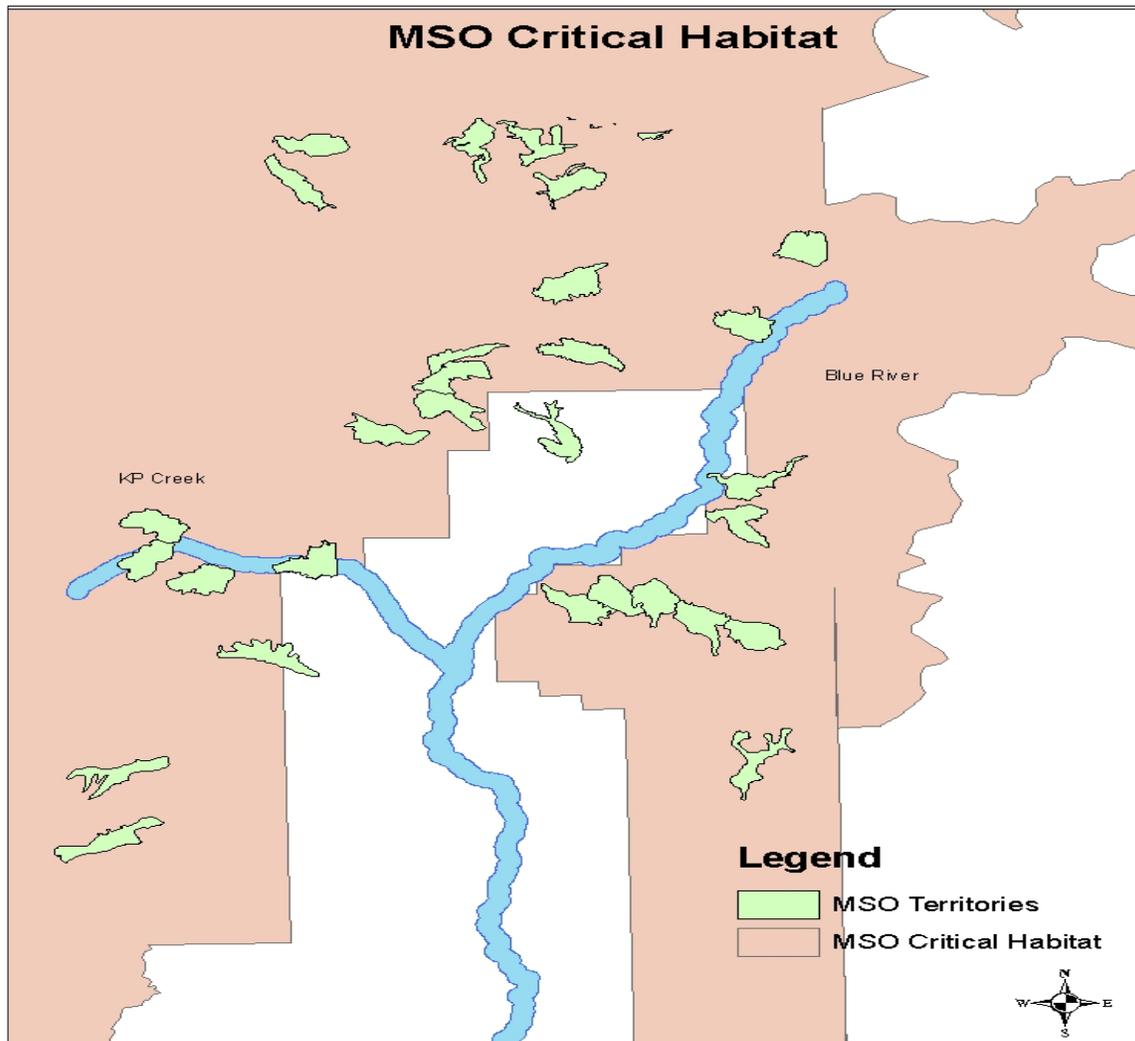
The study corridors include critical habitat for the Mexican spotted owl (*Strix occidentalis lucida*). The U.S. Fish and Wildlife Service designated critical habitat under the Endangered Species Act of 1973, as amended, for the Mexican spotted owl (MSO) as published in the Federal Register on August 31, 2004 (Vol. 69, No. 168). The 1995 recovery plan for the owl outlines management actions that guide land management agencies in efforts to remove recognized threats and recover the owl. Critical habitat designation is based on recovery needs and guidelines as identified in the recovery plan. Both KP Creek and Blue River have areas that are located within MSO critical habitat. See figure 2.

**Protected Activity Centers:** The Blue-San Francisco consultation (USDI Fish & Wildlife Service, 2003) identified approximately 350 acres of lowland riparian restricted habitat along the Blue River. Informal surveys for MSO were conducted along the Blue River in 2003 with no detections of owls. Three MSO PACs (protected activity centers) occur within the eligible corridor of KP Creek and two MSO PACs occur within the eligible corridor of Blue River (all in segment 1). See table 6.

**Table 6. Mexican spotted owl protected activity centers in the study corridors**

PAC Name	PAC No.	Location
Upper Blue	42	Blue River – Segment 1
Blue Vista	55	Blue River – Segment 1
Lower KP Creek	28	KP Creek
Upper KP Creek	27	KP Creek
Butterfly	54	KP Creek

**Critical Habitat:** MSO critical habitat for KP Creek starts 3.3 miles from the confluence of KP Creek and the Blue River. Critical habitat is 1.8 miles along the northern side of the river, and extends 5.9 miles further on both sides of the river. MSO critical habitat for the Blue River starts 1.4 miles upstream from the confluence of KP Creek and the Blue River. Critical habitat is 10.5 miles along the southeastern part of Blue River, and extends 4.5 miles further on both sides. See figure 2.



**Figure 2. Mexican spotted owl territories and critical habitat in or near the study corridors**

### **Management Indicator Species**

The management indicator species (MIS) listed in table 7 could have habitat or could occur within the study corridors. Management indicator species identify representative habitat types and associated species that occur within the national forest boundary and/or because they are thought to be sensitive to management activities. The MIS were developed to provide a framework for changes to forest habitats and their associated species. These MIS are designed to identify potential beneficial or adverse effects on specific species or habitats of concern, establish the significance of those effects, and eliminate or minimize any adverse effects.

Of the 15 management indicator species identified for the ASNFs, mule deer, Rocky Mountain elk, wild turkey, and Abert's squirrel are specifically mentioned in the eligibility report (appendix B) as known to occur in the study corridors.

**Table 7. Management indicator species for the Apache-Sitgreaves National Forests that could occur in the study corridors**

Species	Projected Potential Habitat Indicator	Management Area Association	Habitat Associations Defined by the RO3WILD Model and Described in the “Wildlife Coefficients Technical Report” as Amended in 1985
Elk	Early succession	MA-1, MA-2, MA-4	Wide variety of vegetation type reflecting summer/winter and forage/cover needs.
Mule deer	Early succession	MA-1, MA-2	Wide variety of vegetation types reflecting summer/winter and forage/cover needs.
Abert’s squirrel	Early succession	MA-1	Ponderosa pine, especially more dense mature and pole stands. Gambel oak for feeding.
Merriam’s turkey	Late succession	MA-1	Wide variety of vegetation types, but especially aspen, gambel oak, ponderosa pine, and juniper.
Pygmy nuthatch	Late succession	MA-1	Moderately dense to dense mature and old-growth ponderosa pine.
Northern goshawk	Late succession	MA-1	Moderately dense to dense stands of mature and old-growth spruce-fir, mixed conifer, and ponderosa pine.
Mexican spotted owl	Late succession	MA-1	Dense stands of mature and old-growth mixed conifer and ponderosa pine.
Red squirrel	Late succession	MA-1	Moderately dense to dense stands of mature spruce-fir and mixed conifer, and old-growth stands of spruce-fir and mixed conifer.
Hairy woodpecker	Snags	MA-1	Mature and old-growth stands of spruce-fir, mixed conifer, and ponderosa pine; also, mature and old-growth aspen stands to a lesser degree.
Plain (juniper) titmouse	Snags	MA-2	Primarily mature and old-growth pinyon-juniper woodlands; snags within those woodlands.
Pronghorn antelope	Early succession	MA-2, MA-4	Grasslands and early seral stage of juniper grasslands.
Lincoln’s sparrow	High elevation riparian	MA-3	Mature, high elevation, woody riparian communities.
Aquatic macro-invertebrates	Not in FLMP EIS	MA-3	Not modeled.
Cinnamon teal	Wetlands	MA-11	Not modeled.

### Forest Service Sensitive Species

Regional Forester Sensitive Species are those species of highest viability concern on the national forests. Sensitive species were identified in 2007 through the Forest Service Regional Forester’s Sensitive Species designation process. These species are discussed in detail in the biological evaluation (BE) for the project.

Overall, the reasons for concern for viability for each species is a result of one or a combination of several factors including habitat and species rarity or poor distribution, population decline trends, risk to habitat integrity and population vulnerability. Determination of risk to species considered the ecological requirements, life history and geographic range of the species. Sensitive species occur on the Alpine and Clifton Ranger Districts in a wide range of habitats. Table 8 lists the sensitive species known, or with potential to occur, in the area proposed for designation on the Alpine and Clifton Ranger Districts.

**Table 8. Terrestrial sensitive species listed for the Alpine and Clifton Ranger Districts**

Common Name	Scientific Name	Known or Potential to Occur in Study Corridors?
Bald eagle	<i>Haliaeetus leucocephalus</i>	Potential for nest sites.
Southwestern river otter	<i>Lontra canadensis sonorae</i>	Habitat exists in the study corridors.
New Mexico jumping mouse	<i>Zapus hudsonicus luteus</i>	There is a record of this species from the Blue River in Greenlee County, and habitat occurs in the study corridors.
American peregrine falcon	<i>Falco peregrinus anatum</i>	Observed along the Blue and San Francisco Rivers.
Common black-hawk	<i>Buteogallus anthracinus</i>	Habitat exists in the study corridors.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Potential habitat within the study corridors.
Bell's vireo	<i>Vireo bellii</i>	Observed on both the San Francisco and Blue Rivers.
Northern leopard frog	<i>Rana pipiens</i>	Potential habitat within study corridors.
Lowland leopard frog	<i>Rana yavapaiensis</i>	Potential habitat within study corridors.
Arizona toad	<i>Bufo microscaphus microscaphus</i>	Commonly found on the Clifton Ranger District along the Blue and San Francisco Rivers.
Mexican garter snake	<i>Thamnophis eques megalops</i>	Potential habitat within study corridors.
Narrow-headed garter snake	<i>Thamnophis rufipunctatus</i>	Observed in backwater rocky pools alongside vegetated banks of Blue River.
White Mountains water penny beetle	<i>Psephenus montanus</i>	Potential habitat in study rivers. Occurs in cold fast-flowing, high elevation streams in Apache and Greenlee Counties.

## Recreation Values

### Blue River

**Finding from the 2009 eligibility report (appendix B):** Recreation is an ORV because the recreation opportunities are diverse and attract visitors from throughout and beyond the area of comparison. Many visitors are attracted because of the remote and primitive setting.

## Existing Conditions

### Recreation Setting and Opportunities

**Segment 1** - Recreation opportunities include picnicking, camping (figure 3), swimming, hunting, and hiking. There are also opportunities for mountain biking along Forest Road 281, which parallels and crosses the Blue River. Many trailheads provide non-motorized access to the Blue Range Primitive Area. Developed recreation opportunities include the Upper Blue and Blue Crossing Campgrounds. Trailheads include Blue Admin, Sawmill, Grant Creek and Steeple. Refer to table 21 in chapter 5 for a display of the recreation opportunities. There are 4 miles of hiking and horseback riding trails in the study corridor for this segment.

Recreation opportunity spectrum (ROS)<sup>5</sup> classes for this segment include:

- roaded natural – 6,875 acres
- semiprimitive motorized – 205 acres
- semiprimitive nonmotorized – 98 acres

The recreation niche for segment 1 is dispersed recreation outside of the Blue Range Primitive Area, and wilderness or primitive within the Blue Range Primitive Area.

**Segment 2** - Most of this segment is in the Blue Range Primitive Area. Hiking, backpacking, camping, horse packing, and hunting all occur along this river and its canyon corridors. This portion of the Blue River area is very remote, vast, and undeveloped so it offers a primitive recreation experience unlike elsewhere in the State. At the south end of segment 2 is the Blue River Trailhead. There are 17 miles of hiking and horseback riding trails in the study corridor for this segment.

ROS classes for this segment include:

- primitive – 3,785 acres
- roaded natural – 182 acres
- semiprimitive motorized – 498 acres
- semiprimitive nonmotorized – 491 acres

The recreation niche for segment 2 is dispersed recreation outside of the Blue Range Primitive Area, and wilderness or primitive within the Blue Range Primitive Area.

**Segment 3** – There are no developed recreation sites along this segment, however, there is a trail network offering a variety of opportunities. There are 1.3 miles of hiking and horseback riding trails in the study corridor for this segment.

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<sup>5</sup> The acres generated for each ROS class are approximate and based on the best available data. When the forest plan was signed in 1987, mapping of the ROS classes was deferred. Over the years several mapping efforts have occurred that have generated varying acreages for each class. The data used for this analysis was generated using the data prepared for the forest plan revision effort that is underway.

ROS classes for this segment include:

- primitive – 200 acres
- roaded natural – 1,000 acres
- semiprimitive motorized – 71 acres

The recreation niche for segment 3 is dispersed recreation.

**Segment 4** - Advanced canoeing and kayaking are possible during high runoff seasons starting from Juan Miller Road. There are no developed recreation sites along this segment, however, there is a trail network offering a variety of opportunities. There are 1.6 miles of hiking and horseback riding trails in the study corridor for this segment.

ROS classes for this segment include:

- semiprimitive nonmotorized – 2,234 acres
- roaded natural – 74 acres
- semiprimitive motorized – 134 acres

The recreation niche for segment 4 is dispersed recreation.

## **KP Creek**

Finding from the 2009 eligibility report (appendix B): Recreation is an ORV because the recreation opportunities attract visitors from throughout the area of comparison, the State of Arizona, and have the potential to attract visitors from beyond the area of comparison.

## **Existing Conditions**

### **Recreation Setting and Opportunities**

KP Creek provides opportunities for hiking, fishing, backpacking, and horseback riding. A popular day hike destination is two small waterfalls about 3 miles downstream from KP Cienega. KP Creek also provides access to the Blue Range Primitive Area. Licensed and permitted outfitters and guides operate hunting and fishing trips along KP Creek.

Approximately 2,378 acres of the river corridor is in wilderness – Blue Range Primitive Area. However, 3,253 acres have been classified as wilderness-primitive recreation niche, providing recreation opportunities of solitude and remoteness.

Recreation Opportunity Spectrum (ROS) classes include:

- primitive – 2,409 acres
- roaded natural – 780 acres
- semiprimitive nonmotorized – 623 acres

Several hiking and horseback riding trails provide access to KP Creek. This includes KP, North Fork KP, KP Rim, Blue Lookout, McKittrick, and Steeple Trails. There are 7 miles of the KP Trail in the ¼ mile corridor of KP Creek, along with less than 1 mile of the McKittrick, North Fork KP, and Blue Lookout Trails.



**Figure 3. Historic Adirondack shelter at Upper Blue Campground**



**Figure 4. Blue River corridor just south of Upper Blue Campground**

## **Scenery Values**

### **Blue River**

**Finding from the 2009 eligibility report (appendix B):** Scenery is an outstandingly remarkable value because of the diversity of landforms, colors, and vegetation found along the river corridor (figure 4).

### **Existing Conditions**

The Blue River landscape includes a diversity of textures, colors, and forms which create striking views everywhere along the river corridor (figure 5). The river bottom is littered with boulders, rocks, and sediment from the side canyons (figures 6 and 7). The river corridor varies from wide

flood plains separated by narrow box canyons to wide or narrow sandy river bottoms to a relatively narrow canyon with towering canyon walls (figure 8). Slumps and fault lines are visible in places like the Blue Box. The river cuts through dark lava flows, red walls, white volcanic ash, and rock-studded conglomerate. In places, water flows through narrow, almost slotlike reaches and elsewhere through wide and meandering flood plains.

The following information is from the ASNFs working draft land management plan (June 2009) description of the Blue geographic area.

*“This rugged backcountry contains a wide range of ecological communities from semidesert grassland below the Mogollon Rim to high mountain forests above the rim. It is primarily composed of woodlands, interior chaparral, and grasslands, with ponderosa pine and mixed conifer found in the higher elevations. The Mogollon Rim traverses the area west to east while the Blue River and its rugged canyon run north to south. Rolling terrain, unique rock formations, and rough, precipitous canyons characterize the landscape of this area. The Blue Range Primitive Area, the only primitive area in the NFS, makes up 45 percent of this area.”*

The acres of each of the visual quality objectives are displayed in tables 9 and 10 for each segment of the Blue River and KP Creek.

**Table 9. Blue River visual quality objectives**

Blue River Segment	Visual Quality Objective Acres		
	Preservation	Partial Retention	Modification
1	126	7,052	
2	438	4,441	77
3		1,236	37
4	95	2,346	



**Figure 5. Diversity of vegetation in the Blue River corridor south of Upper Blue Campground**



**Figure 6. Blue River just south of Upper Blue Campground**



**Figure 7. Blue River south of KP Creek**

**KP Creek**

**Finding from the 2009 eligibility report:** Scenery is an ORV because of the lush vegetation, steep canyon walls, and tumbling waterfalls.

**Existing Conditions**

The scenery is widely diverse. Upper KP Creek rushes down a steep, thickly forested canyon with lush riparian vegetation. Two small waterfalls can be seen from KP Trail, which follows the creek downstream.

Additional waterfalls are found about 7 miles downstream but these are located off the trail. Grassy flats contrast with large, old-growth ponderosa pines and provide views into deep pools and across to canyon walls.

**Table 10. KP Creek visual quality objectives**

Visual Quality Objective Acres		
Preservation	Retention	Partial Retention
3,243	480	90



**Figure 8. South end of KP Creek taken from the Blue River corridor**

## Summary of the Scenery Management System Inventories

### Common to Blue River and KP Creek

Both streams have a high level of public concern for scenery based on the scenic class ratings of 1 and 2. The high levels of scenic attractiveness class A for each segment of the Blue River and KP Creek support the eligibility finding that scenery is an outstandingly remarkable value.

### Blue River

Segment 1 is the only segment that includes a moderate existing scenic integrity (ESI) due to the landscape appearing slightly altered for 57 percent of the corridor. This rating is compatible with the recreational river classification. Segment 1 also has the lowest percent of scenic attractiveness class A landscapes, at 71 percent. All of the other segments have at least 80 percent class A scenic attractiveness.

Segment 2 has the greatest amount of very high ESI, or unaltered landscape, out of all the segments. This rating supports the wild river classification.

Inventory ratings for segment 3 support the classification of a scenic river. This is the only segment that does not have any ESI rated very high. The entire segment is rated an ESI of high, where the deviations in the landscape are not evident.

Although 91 percent of segment 4 has a high ESI rating, deviations in the landscape are not evident and the rating supports the wild river classification. This segment is the only segment that includes scenic attractiveness class C, for 1 percent of the segment.

### KP Creek

Approximately 87 percent of the corridor is rated as very high ESI, where the landscape is unaltered except for minute deviations if any. The scenic attractiveness class A makes up 93 percent of the corridor. These inventory ratings support the wild river classification of KP Creek.

## Historic and Prehistoric Cultural Values

### Blue River

#### Historic

**Finding from the 2009 eligibility report (appendix B):** Historic resources are an ORV because of the length of post-settlement use in the area.

The Blue River area was notorious for cattle rustling in the mid-1800s. By the late 1800s several small cattle ranching homesteads were established along the Blue River. Some of these historic ranch headquarters on segment 1 are still used today and remind visitors of the area's ranching heritage. The Forest Service was also present along the Blue River. The Baseline Ranger Station, established circa 1908, was located on the southern boundary of the Blue Range Primitive Area. Evidence of Civilian Conservation Corps construction work can be seen in Upper Blue and Blue Crossing Campgrounds.

## Prehistoric

**Finding from the 2009 eligibility report:** Prehistoric resources are an outstandingly remarkable value because the river corridor contains extensive evidence of occupation and use by the Mogollon culture.

Potentially thousands of prehistoric sites occur along the Blue River, which figured significantly in the prehistoric Mogollon culture. During prehistoric times, the area around the river provided all life-sustaining resources including game animals, wild resources, reliable water for agriculture, building materials, and suitable locations for habitation sites. Typical sites include rock shelters, shard and lithic scatters, pit-house villages, and rock masonry room blocks or pueblos.

## Existing Conditions

A total of 133 known archaeological sites are located in the Blue River study corridor (segments 1 through 4). These sites include scatters of historic and prehistoric artifacts, pictographs, ranches, prehistoric structures, historic campgrounds, homesteads, pit houses, roasting pits, grinding stones, Great Kiva sites, ceremonial sites, or village sites. Of the 133 sites, 16 are located on private property.

Many of these sites have been recorded over time as the result of exploration, amateur archaeological investigations, forest projects requiring survey, and oral traditions. No formal cultural resource survey was conducted for this suitability study; however, many surveys for previous projects have occurred. Approximately 528 acres of the area of potential effect (APE) have been previously surveyed for various projects other than this suitability study. Data from these studies has been analyzed for this report. These reports suggest that some sites within the Blue River corridor are subject to natural erosion, bioturbations such as gopher or rodent burrowing, historic logging activities, early road construction, vandalism, and artifact hunters. Of the 133 sites located in the corridor, only 4 have been evaluated on National Register of Historic Places (NRHP) criteria. The remaining 129 sites are unevaluated and considered “potentially eligible” for the NRHP. These sites must be protected until further testing and evaluation is completed. This “potentially eligible” status and affiliation with the Mogollon culture and other nearby native groups are the contributing ORVs of the Blue River corridor.

The corridor subject to study has been broken into four segments based on tentative classifications of wild, scenic, or recreational eligibility: segment 1 – recreational, segment 2 – wild, segment 3 – scenic, and segment 4 – wild. Table 11 displays the type and count of sites per segment.

**Table 11. Cultural resource site count and site type by segment, Blue River**

Blue River Segment	Historic Sites	Sites Exhibiting Historic and Prehistoric Components	Prehistoric Sites	Unknown Sites**	Total
1	11	3	77	1	92*
2	5	0	17	0	22
3	1	0	14	0	15
4	0	0	3	1	4

\*16 of these sites are located on privately owned lands in segment 1.

\*\*Sites that have been reported but not confirmed or formally recorded. No cultural resource surveys for any undertaking have been conducted along KP Creek. Given the site density along Blue River, it is highly likely that there are many undiscovered sites located along the KP corridor. Before any undertakings are to take place, a survey for archaeological resources should be conducted in accordance with Section 106 of the National Historic Preservation Act of 1966 and the forest plan.

## KP Creek

Neither history nor prehistory was identified as an ORV for KP Creek.

## Vegetation Values

### Blue River

**Finding from the 2009 eligibility report (appendix B):** Vegetation is an ORV because of the great diversity of vegetation communities associated with the changes in elevation, including the deciduous shrub and tree canopies along the river segments.

## Existing Conditions

### Blue River

The Blue River is a tributary of the San Francisco River and is part of the Gila River Basin. Elevations range from approximately 3,865 feet to over 9,000 feet. The Blue River corridor contains a diverse mix of species including alligator and one-seed juniper, and occasional piñon and ponderosa pine. Grey and Emory oak, mountain mahogany, Wright’s silktassel, buckbrush, desert ceanothus, and some mesquite also occur. Perennial bunchgrasses can be abundant within the canyon, with five different species of grama grasses present. There are also more than seven species of muhly grasses.

Riparian vegetation includes narrowleaf and Fremont cottonwood, Arizona sycamore, boxelder, Arizona walnut, alder, various willows, ash, hoptree, and seepwillow (not a true willow). The tree canopy is not continuous, but broken up by vertical rock canyons that eventually open to gentler slopes. Wildflowers bloom in the spring and after summer rains, while sand-loving grasses such as vine mesquite, creeping muhly, and sand dropseed are found in the river’s shifting flood plain. This diversity of vegetation, especially in riparian areas, attracts a wide variety of avian species.

A tamarisk inventory of the Blue River was done in 2005 (Hoffman 2005) with approximately 41 river miles inventoried. A total of 293 locations with one or more tamarisk plants and a total of

2,260 individual plants were recorded with an average density of 1 plant every 96 feet. Tamarisk plants were found throughout the canyon bottom, but were most commonly found along the watercourse or within secondary flood channels often hundreds of feet from the primary watercourse.

### **KP Creek**

Vegetation was not identified as an ORV for KP Creek.

### **Existing Conditions**

A variety of vegetation occurs on the canyon slopes because of differing slope aspects. On north-facing slopes, the vegetation consists of spruce, Douglas-fir, and ponderosa pine with side drainages possibly supporting Goodding's onion. On the south-facing slopes, vegetation is primarily oak, mountain mahogany, and juniper and piñon. Riparian vegetation in upper KP Creek includes alder, willow, and other uncommon plants such as baneberry, sweet cicely, cow parsnip, twinberry, false-hellebore, and monkshood. Blumer's dock is found along the upper portion of the creek. Lower KP Creek contains boxelder, Arizona walnut, and Arizona sycamore with wild grape and Virginia creeper vines climbing some of the trees. Emory oak, California buckbrush, and some poison ivy are also found along the lower canyon bottom. The 2004 KP Wildfire affected several spots along the creek; here regrowth demonstrates plant succession.

### **Forest Service Sensitive Plant Species**

The following discussion incorporates by reference the "Biological Evaluation (BE) for Sensitive Plant Species, Blue River and KP Creek Wild and Scenic Rivers Suitability Study, August 2010" located in the project record. The BE includes full documentation of the plant characteristics, potential for occurrence in the study corridors, affected environment, and environmental effects.

Eight Forest Service sensitive plant species potentially occur on the forests (USDA Forest Service Southwestern Region Sensitive Plants List September 21, 2007). Of these, the following four Forest Service sensitive plant species are addressed in this analysis:

**Goodding's onion** — expected to occur within the eligible Blue River and KP Creek wild and scenic river corridors. Some populations have been introduced on the Apache-Sitgreaves National Forests, although not within the Blue River or KP Creek corridors.

**Blumer's dock, Bebb's willow and Yellow-lady's slipper** — riparian species that have been known to occur or do occur within the riparian corridors of KP Creek and Blue River.

No threatened, endangered or proposed plant species are known to occur within the analysis area, and no critical habitat for plants has been designated in the analysis area.

### **Classification**

River segments are classified for study as either wild, scenic, or recreational based on the condition of the river and the adjacent lands as they exist at the time of the study. The criteria for determining classification of a river segment is based on existing water resources projects, shoreline development, accessibility, and water quality (FSH 1909.12, 82.3).

**Wild rivers** are those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive, and waters unpolluted. These represent vestiges of primitive America.

**Scenic rivers** are those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive, and shorelines largely undeveloped, but accessible in places by roads.

**Recreational rivers** are those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Refer to tables 1 and 2 in chapter 1 for a description of four segments of the Blue River and one segment of KP Creek.

Blue River segment 1 was classified as recreational due to FR 281 that parallels almost the entire segment. This segment also includes private lands with residences, outbuildings and other development.

Blue River segment 2 and 4, and KP Creek were classified as wild because they are primarily within the Blue Range Primitive Area and/or they have little development and are accessible by trail only.

Blue River segment 3 was classified as scenic because Juan Miller Road crosses through the corridor and river.

# Chapter 4 – Description of the Alternatives

## Alternatives Considered in Detail

Four alternatives including a no action alternative (alternative 1) are analyzed in detail in this environmental assessment. The no action alternative represents the current condition, including the continuation of current management of the river corridors. This alternative serves as a baseline for comparison among the alternatives.

The alternatives described below provide a range of suitability determinations for the five eligible river segments displayed on map 3, Blue River and KP Creek eligible corridors and classifications.

### Alternative 1 – No Action (Defer Suitability Determination)

See map 12 in appendix A.

Alternative 1 defers suitability determinations at this time. This alternative is the current condition and requires protecting the rivers' eligibility and classification consistent with forest plan direction and Agency policy (FSH 1909.12, 82.5). This alternative precludes construction of the fish barrier for native fish restoration.

The goal of this alternative is to use current management and collaborative efforts to protect and enhance the free-flowing condition and ORVs in the eligible river segments. This management approach would maintain WSR eligibility until a suitability study is conducted sometime in the future.

Under alternative 1, current management would continue under the existing authorities as directed by the forest plan and other existing authorities listed in appendix D, "Management Direction." The river segments would continue to be managed as eligible for inclusion in the National Wild and Scenic River system. Interim management policies outlined in FSH 1909.12, Chapter 82 would apply in order to protect free flow, water quality, and ORVs while maintaining the river classifications as recommended in the 2009 eligibility study (appendix B).

**Table 12. Alternative 1 suitability by segment**

Eligible River Segment	Miles	Classification	Suitability	Management Direction (Appendix D)	Interim Management (FSH 1901.12 Ch. 82)
Blue River – 1	25.1	Recreational	Deferred	Existing	Applies
Blue River – 2	16.0	Wild	Deferred	Existing	Applies
Blue River – 3	4.2	Scenic	Deferred	Existing	Applies
Blue River – 4	8.1	Wild	Deferred	Existing	Applies
KP Creek	11.3	Wild	Deferred	Existing	Applies

### Forest Plan Amendment

Alternative 1 would require an amendment to forestwide standards and guidelines:

*“River segments determined to be eligible or suitable for inclusion in the National Wild and Scenic Rivers System would be managed in accordance with interim management guidelines for eligible or suitable rivers found in Forest Service Handbook 1909.12 (82.5). Where there is conflict between forest plan management area direction and the management guidelines for eligible or suitable rivers (FSH 1909.12 Ch. 82.51), the more restrictive provisions would apply.”*

### Alternative 2 – No Segments Suitable and Recommended

See map 13 in appendix A.

The goals of this alternative are to (1) avoid any potential effects to the existing social, economic, and land use conditions that might occur if Blue River and KP Creek were included in the National system, and (2) provide future options for management and protection of river values through existing authorities and collaborative efforts. This alternative allows for construction of the fish barrier for native fish restoration.

Under alternative 2, none of the eligible river segments would be found suitable and recommended for inclusion in the National system. Protection of river values would revert to the direction provided in the ASNFs forest plan, and interim management direction to protect as a potential wild and scenic river (FSH 1909.12, Chapter 82) would not apply.

Alternative 2 would find:

- 0 miles suitable
- 64.7 miles not suitable

**Table 13. Alternative 2 suitability by segment**

Eligible River Segment	Miles	Classification	Suitability	Management Direction (Appendix D)	Interim Management (FSH 1901.12 Ch. 82)
Blue River – 1	25.1	Recreational	Not Suitable	Existing	Does Not Apply
Blue River – 2	16.0	Wild	Not Suitable	Existing	Does Not Apply
Blue River – 3	4.2	Scenic	Not Suitable	Existing	Does Not Apply
Blue River – 4	8.1	Wild	Not Suitable	Existing	Does Not Apply
KP Creek	11.3	Wild	Not Suitable	Existing	Does Not Apply

No forest plan amendment is required under alternative 2.

### Alternative 3 - Some Segments Suitable and Recommended

See map 14 in appendix A.

Alternative 3 would protect the rivers' ORVs through a mix of management strategies that include WSR designation for some segments, and collaborative efforts with other agencies and local stakeholders on the remaining segments. The alternative would maximize protection and enhancement of free flow, water quality and the ORVs while allowing for other activities such as construction of the fish barrier for native fish restoration in the lower Blue River, and collaboration with agencies and local citizens in the upper Blue River. If the suitable corridors were subsequently added to the National system by Congress, future protection would be in accordance with the act.

Alternative 3 would find:

- 38.84 miles suitable
- 25.86 miles not suitable

**Table 14. Alternative 3 suitability by segment**

Eligible River Segment	Miles	Classification	Suitability	Management Direction (Appendix D)	Interim Management (FSH 1901.12 Ch. 82)
Blue River – 1	25.1	None	Not Suitable	Existing	Does Not Apply
Blue River – 2	16.0	Wild	Suitable	Existing	Applies
Blue River – 3	4.2	Scenic	Suitable	Existing	Applies
Blue River – 4a	7.34	Wild	Suitable	Existing	Applies
Blue River – 4b	0.76	None	Not Suitable	Existing	Does Not Apply
KP Creek	11.3	Wild	Suitable	Existing	Applies

### Forest Plan Amendment

Alternative 3 would require an amendment to forestwide standards and guidelines:

*“River segments determined to be eligible or suitable for inclusion in the National Wild and Scenic Rivers System would be managed in accordance with interim management guidelines for eligible or suitable rivers found in Forest Service Handbook 1909.12 (82.5). Where there is conflict between forest plan management area direction and the management guidelines for eligible or suitable rivers (FSH 1909.12 Ch. 82.51), the more restrictive provisions would apply.”*

## Alternative 4 – All Segments Suitable and Recommended

See map 15 in appendix A.

The goal of this alternative is to maximize protection and enhancement of free flow, water quality, and ORVs and to maintain system integrity into the future.

Alternative 4 would find all eligible segments of Blue River and KP Creek suitable and recommended as additions to the National system. Protection would be through existing authorities, including interim management directed by FSH 1909.12 (82.5). If the rivers were subsequently added to the National system by Congress, future protection would be in accordance with the act. This alternative precludes construction of the proposed fish barrier for native fish restoration.

Alternative 4 would find:

- 64.7 miles suitable
- 0 miles not suitable

**Table 15. Alternative 4 suitability by segment**

Eligible River Segment	Miles	Classification	Suitability	Management Direction (Appendix D)	Interim Management (FSH 1901.12 Ch. 82)
Blue River – 1	25.1	Recreational	Suitable	Existing	Applies
Blue River – 2	16.0	Wild	Suitable	Existing	Applies
Blue River – 3	4.2	Scenic	Suitable	Existing	Applies
Blue River – 4	8.1	Wild	Suitable	Existing	Applies
KP Creek	11.3	Wild	Suitable	Existing	Applies

### Forest Plan Amendment

Alternative 4 would require an amendment to forestwide standards and guidelines:

*“River segments determined to be eligible or suitable for inclusion in the National Wild and Scenic Rivers System would be managed in accordance with interim management guidelines for eligible or suitable rivers found in Forest Service Handbook 1909.12 (82.5). Where there is conflict between forest plan management area direction and the management guidelines for eligible or suitable rivers (FSH 1909.12 Ch. 82.51), the more restrictive provisions would apply.”*

## Alternatives Considered but Eliminated from Detailed Study

### Study Just a Portion of Blue River

This alternative would narrow the scope of this analysis to that portion of the Blue River directly and indirectly affected by the proposed fish barrier if implemented. One respondent to scoping felt that studying all eligible segments is a waste of time and money and would delay construction of the barrier. Another respondent thought the Bureau of Reclamation should work with the USFS to focus the analysis according to the river hydraulics calculated based on the fish barrier design.

**Rationale for elimination from detailed study:** Limiting the suitability study to just the portion of the river in the vicinity of the fish barrier would reduce the comprehensive nature of the suitability study and make it impossible to assess suitability in a meaningful way.

### Study All Eligible Rivers in the Watershed

Include the other eligible rivers in the watershed in the study.

**Rationale for elimination from detailed study:** The programmatic nature of this analysis is more commonly and comprehensively conducted in the process of large-scale land management planning. As noted in the “Purpose and Need” section in chapter 1, Blue River is under study at this time in order to facilitate the BOR’s compliance with the USFWS’s biological opinion which requires protection of native fish. It is logical to include KP Creek at this time due to the similarity of the valuable native fishery and fish restoration plans on these two waterways.

## Comparison of Alternatives

**Table 16. Suitable and unsuitable miles by classification and alternative**

	Alt. 1	Alt. 2		Alt. 3		Alt. 4	
		Suitable	Unsuitable	Suitable	Unsuitable	Suitable	Unsuitable
Wild	Deferred suitability	0	35.40	34.64	0.76	35.40	0
Scenic		0	4.20	4.20	0	4.20	0
Recreational		0	25.10	0	25.10	25.10	0
Total Miles		0	64.70	38.84	25.86	64.70	0

**Table 17. Comparison of issue resolution by alternative**

<b>Issue</b>	<b>Indicator</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>	
Long-term Protection	River segments found suitable or unsuitable; the associated impacts to river values.	Suitability determinations deferred. See chapter 5 for predicted impacts.	Suitable: none Unsuitable: all study segments. See chapter 5 for predicted impacts.	Suitable: BR-2, BR-3, BR-4a, KP-1 Unsuitable: BR-1, BR-4b See chapter 5 for predicted impacts.	Suitable: all study segments Unsuitable: none See chapter 5 for predicted impacts.	
Economic Impacts	Economic impacts to the Blue community area and Greenlee County: property values and changes in revenues	Negligible	Negligible	Minimally positive	Minimally positive	
	USFS costs of developing the CRMP and administering designations	NA	NA	CRMP: \$175,000 Administration: \$35,000 per year	CRMP: \$250,000 Administration: \$50,000 per year	
Land Use Restrictions	Types of activities, including resource protection activities, affected by designation.	None	None	None	None	
Current Management and Collaboration	Mechanisms to protect free-flowing condition, water quality, and ORVs outside of designation in the National system	forest plan	forest plan	forest plan	forest plan	
		FSH interim management for eligible rivers FSH 1909.12 (82.5 and 82.51)	NA	FSH interim management for suitable rivers (suitable segments only) FSH 1909.12 (82.5 and 82.51)	FSH interim management for suitable rivers FSH 1909.12 (82.5 and 82.51)	
		Additional law, regulation, and policy. (appendix D)				
		Greenlee County Community Wildfire Protection Plan				
		Memorandum of understanding for analysis of a fish barrier on Federal lands - decision deferred	Memorandum of understanding for analysis of a fish barrier on Federal lands	NA for proposed barrier location		
		Memorandum of understanding for conservation and management of resources in Blue River				

# Chapter 5 – Environmental Consequences

## Introduction

This chapter addresses the environmental consequences predicted for each alternative by disclosing how management, uses, and activities in each segment may change if found suitable or unsuitable, and any predicted resource effects.

The analysis of environmental effects focuses on the river values (free-flowing condition, water quality, and outstandingly remarkable values (ORVs), land uses, and management activities) in the river corridors as follows:

1. Free-flowing condition
2. Water management
3. Outstandingly remarkable values identified in the eligibility study:
  - a. Fisheries
  - b. Wildlife
  - c. Recreation
  - d. Scenery
  - e. Historic and prehistoric
  - f. Vegetation
4. Land uses and management activities:
  - a. Landownership and land uses
  - b. Special use permits
  - c. Access and infrastructure
  - d. Range
  - e. Minerals
  - f. Fire management
  - g. Social and economic conditions

In addition, as provided in sections 4(a) and 5(c) of the Wild and Scenic Rivers Act of October 2, 1968, factors considered as a basis for the suitability determination for each river follow the effects discussions.

## Analysis of Direct, Indirect, and Cumulative Effects

This analysis describes the effects of implementing each alternative on the biophysical and socioeconomic environments, and the uses and activities that may be precluded, limited or enhanced if a river segment is included in the National system.

The management of Blue River and KP Creek is currently guided by Agency policy in FSH 1909.12, Chapter 82.5. To the extent of Forest Service authority, the responsible official may authorize site-specific projects and activities on National Forest System lands within eligible or suitable river corridors only where such projects protect the river's free-flowing condition, water quality, ORVs, and classification.

The management direction and authorities which apply to the study corridors at the time of this analysis are summarized in “Appendix D – Management Direction.”

The following assumptions are incorporated into this effects analysis:

- Congress may or may not act to designate any segments found suitable and recommended by this analysis.
- Uses and activities occurring on private lands within the study corridors would continue. The addition of Blue River and KP Creek into the National system would not affect uses and activities on private lands as designation confers no regulatory authority to the river administering agency for management of non-Federal lands.
- The cumulative effects analysis considers the projects listed on the ASNFs’ schedule of proposed actions at the time of this analysis, as well as ongoing uses and activities in the analysis area (see appendix E). Reasonably foreseeable future actions are those anticipated in and near the study corridors in the near future.

The analysis area for direct and indirect effects is the river corridor (one-quarter mile on each side of the river’s banks). The cumulative effects analysis area includes lands within the 5th code watersheds of the study corridors.

## **Environmental Consequences**

### **Effects Common to all Suitable Determinations**

River segments determined suitable would be recommended for inclusion into the National system. The Forest Service would manage recommended segments to protect their free-flowing condition, water quality, ORVs, and classification consistent with its policy for interim management (FSH 1909.12, Chapter 82.5).

If designated, the river administering agency is responsible for protecting and enhancing these same values. Designation affords certain legal protection from adverse development, e.g., prohibits construction of dams and other federally assisted water resource development projects judged to have an adverse effect on river values. The act also withdraws Federal lands within wild classified segments from locatable and leasable mineral entry. However, most current uses and activities on Federal lands within the corridors may continue so long as they protect river values. Uses and activities on Federal lands that have the potential to affect river values would be addressed through site-specific environmental analyses on a case-by-case basis.

Designation neither gives nor implies government control of private lands within the river corridor. The Forest Service has no authority to regulate or zone private lands under this act; however, as the river administering agency, it may highlight the need for amendment to local zoning. Land use controls on private lands are solely a matter of State and local zoning. Although the act includes provisions encouraging the protection of river values through State and local governmental land use planning, there are no binding provisions on local governments (Interagency Council, 2006).

People living or owning property within a designated river corridor would be able to use their property as they had before designation. While river plans may establish goals for new construction consistent with classification, there is a wide range of uses compatible with these

classifications so long as the overall values and character of the river corridor are maintained. If there is a proposed development on private land which is clearly incompatible with designation, classification, or management objectives, the Forest Service would typically provide technical assistance to find ways to alleviate or mitigate the threat to river values. The Forest Service may also engage in negotiated efforts to remove the threat through cooperation with the local zoning authority, or purchase a partial right (easement) or the property in fee title on a willing-seller/willing-buyer basis.

The Forest Service would consider purchase of land only which is voluntarily offered and normally only undeveloped. While the public law allows for condemnation of private land under certain circumstances, the law also states that condemnation cannot be used if 50 percent or more of the land within the boundaries is already in public (including state and local) ownership. As the Federal lands in these river segments exceed 50 percent, Federal condemnation of private property in fee would not be allowed.

The act also allows for acquisition of a scenic easement (Section 16(c)); i.e., a defined development right. The individual landowner would still own the land and have full use of the land within the terms of the scenic easement. However, the Forest Service has not purchased any scenic easements within the State of Arizona and it is not anticipated that any would be pursued.

Maintenance of private roads within the designated corridor generally would not be affected. In consultation with landowners and other local and State permitting agencies, every effort would be made to eliminate or reduce adverse impacts from proposed road improvement, realignment, and/or new construction. Should mitigation and/or consultation fail to reduce adverse impacts to an acceptable level, the Forest Service could negotiate with the landowner to purchase the specific development rights necessary to remove the threat to the river.

Federally assisted water resources projects, i.e. activities within the river's bed or its banks such as roadway bank revetment, new diversion structures, or dredging are subject to review by the river administering agency under Section 7(a) of the act. Such projects may be federally assisted or permitted if judged not to adversely affect the river's free-flowing condition, water quality, or ORVs.

Ownership of the bed and bank of a river is unaffected by designation. If the riverbanks are in private ownership, the landowner continues to control their use after designation. Designation does not grant new privileges to the public on private lands.

Section 13(c) of the act expressly reserves the quantity of water necessary to protect river values. This Federal reserved water right is generally adjudicated in a state forum (e.g., state court or basin-wide adjudication). The designation does not supersede existing, valid water rights and establishes a priority date coincident with the river's date of designation into the National system.

The act requires development of a comprehensive river management plan (CRMP) within 3 full fiscal years after designation. This plan would address resource protection, development of lands and facilities, user capacities, and other management practices necessary to protect values. Citizen involvement, particularly on rivers with mixed ownership, is the key to an enduring plan and the current collaborative planning efforts among agencies, State and local governments, and citizen groups provide an excellent basis for its development.

## **Forest Plan Amendment**

The proposed forest plan amendment applies to all alternatives in which river segments are eligible or suitable (alternatives 1, 3, and 4). The amendment as proposed (chapter 4) would provide direction to manage the eligible and suitable river corridors in accordance with FSH procedures, which are intended to protect, maintain, or enhance river values (water quality, free-flowing condition, and outstandingly remarkable values) as well as tentative classifications under the Wild and Scenic Rivers Act. The amendment would clarify the management requirements when existing management area direction is inconsistent with protection of river values under the act.

## **Effects Common to All Unsuitable Determinations**

River segments determined unsuitable for inclusion into the National system would continue to be managed under existing authorities (“Appendix D – Management Direction”). Agency policy (FSH 1909.12, Chapter 82.5) to protect the river corridors as a potential wild and scenic river would no longer apply. Long-term protection and enhancement of the river’s free-flowing condition, water quality, and ORVs would not be ensured by the act. New water resources projects and mineral entry may be allowed to the extent of existing management authorities. Changes to management on Federal lands would likely occur as land management plans are revised over time and reflect changing values, societal needs, and natural resource management approaches.

Current collaborative efforts among agencies, State and local governments, and citizen groups intended to conserve and manage natural resources in Blue River and KP Creek would be unaffected. These include the partnership currently being formalized in a memorandum of understanding among agencies and citizens intended to protect and enhance resources in the Blue River watershed. In particular, efforts to improve native fisheries, including the proposal to construct a fish barrier in Blue River segment 4, could proceed if approved after appropriate environmental analysis, separate from this suitability study. The goals and objectives of these partnerships among agencies and citizens focus on protection and enhancement of resources, and could serve as alternative approaches to protecting river related values.

Uses and activities on private lands within the river corridor would continue as desired by the landowners, subject to local regulation.

## **Resource Effects by Alternative**

### **Free-Flowing Condition**

#### **Alternative 1 – No Action (Defer Suitability Determination)**

##### **Direct, Indirect, and Cumulative Effects**

Water resources projects proposed on Federal lands within Blue River and KP Creek would continue to be analyzed as to their effect on the river’s free-flowing condition, water quality, and ORVs, with adverse effects prevented to the extent of existing Agency authorities (such as special use authority). The rivers would not be protected from proposed hydroelectric facilities or other federally assisted water resources projects under Section 7(a) of the act.

There are no water supply or flood control projects anticipated in the foreseeable future on Blue River; some small-scale water resources projects are likely to be constructed on private lands in this corridor. There are no existing or foreseeable water resources projects on KP Creek.

The fish barrier proposed for construction in Blue River segment 4 could not be implemented under this alternative because it would affect the free-flowing condition of the river (appendix C).

### **Alternative 2 – No Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

There is no requirement to analyze water resources projects proposed on Federal lands within Blue River and KP Creek and to protect their eligibility (free-flowing condition, water quality, and ORVs). Free-flowing condition may be altered in the future by construction of water resources projects. This alternative provides the least protection for free-flowing conditions.

There are no water supply or flood control projects anticipated in the foreseeable future on Blue River; some small-scale water resources projects are likely to be constructed on private lands in this corridor. There are no existing or foreseeable water resources projects on KP Creek.

The fish barrier proposed in Blue River segment 4 could be constructed under this alternative (pending approval with appropriate environmental analysis). This barrier would impact the free-flowing condition of this segment of the river (appendix C).

### **Alternative 3 – Some Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Segments added to the National system would be protected from the harmful effects of water resources projects under Section 7(a) of the act. This provision prohibits the Federal Energy Regulatory Commission (FERC) from licensing the construction of hydroelectric facilities on rivers that have been designated as components of the National system. Further, the act prohibits other Federal agencies from assisting in the construction of any water resources project that would have a direct and adverse effect on a designated river. Proposed water resources projects below, above, or on a stream tributary to a designated river are evaluated as to their potential to invade the designated river area or unreasonably diminish the scenic, recreational, fish or wildlife values of the designated river.

At this time, no such projects have been proposed for Blue River segments 2, 3, and the upper part of 4, or for KP Creek. Therefore, there would be no short-term changes from designation. In the long term, the act would protect the free-flowing condition of these designated segments.

The free-flowing condition of Blue River segment 1 and 0.76 mile of segment 4, which would not be found suitable and recommended for inclusion in the National system, could be altered in the future.

The fish barrier proposed in Blue River segment 4 could be constructed under this alternative (pending approval with appropriate environmental analysis). This barrier would impact the free-flowing condition of this segment of the river (appendix C).

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Designation would provide Blue River and KP Creek protection from the harmful effects of water resources projects under Section 7(a) of the act. This provision prohibits the Federal Energy Regulatory Commission (FERC) from licensing the construction of hydroelectric facilities on rivers that have been designated as components of the National system. Further, the act prohibits other Federal agencies from assisting in the construction of any water resources project that would have a direct and adverse effect on a designated river. Proposed water resources projects below, above, or on a stream tributary to a designated river are evaluated as to their potential to invade the designated river area or unreasonably diminish the scenic, recreational, fish or wildlife values of the designated river.

At this time, no such projects have been proposed in the study corridors; therefore, there would be no short-term changes from designation. In the long term, the act would protect the free-flowing condition of these designated segments.

In addition, the fish barrier proposed for construction in Blue River segment 4 could not be implemented under this alternative because it would affect the free-flowing condition of the river (appendix C).

## **Water Management**

### **Effects Common to All Alternatives**

Ongoing projects such as road and trail maintenance, and the development of gravel pits would continue within the upper and lower Blue River 5th field watersheds. Best management practices are designed for project implementation to minimize the addition and negative impact of sediment in Blue River or KP Creek. Wildfires would continue to occur sporadically, most commonly above KP Creek. The Campbell Flat prescribed burn, planned to reduce fuels, would occur to lower the risk of high intensity wildfire in this area, thereby reducing the risk of fine sediment to the rivers. Development would be expected to continue periodically on private land in segment 1 along the Blue River.

The lower half of Blue River segment 1 and the upper three-quarters of segment 2 are within the Blue Range Primitive Area, which is managed to emphasize wilderness recreation while maintaining wilderness values. No timber harvesting or road construction is allowed in the river corridor of the primitive area, which protects this section of the river from any additional sediment from roads or timber harvest.

Maintenance of water developments and ditch lines would occur under all alternatives. These activities would be allowed under all alternatives as long as water quality is protected to meet state defined beneficial uses.

### **Alternative 1 – No Action (Defer Suitability Determination)**

Under alternative 1, suitability findings would be deferred and current management would continue. All segments of Blue River and KP Creek would be managed as eligible for inclusion into the National system.

### **Direct, Indirect, and Cumulative Effects**

The Forest Service would continue to protect and enhance water quality using existing authorities including forest plan management area direction and interim management guidelines as summarized in “Appendix D – Management Direction.”

The Blue River is presently fenced from active grazing along the river, and riparian vegetation has continued to improve since removal of livestock. Maintaining high water quality by protection of riparian areas is supported under this alternative.

There would be no short-term negative impact to water quality because there would be no change in current management in accordance with State and Federal standards through adherence to standard water quality monitoring directed by the Clean Water Act, the Environmental Protection Agency (EPA), and various State laws.

Blue River and KP Creek are study rivers determined eligible for the National system through Agency planning processes in accordance with Section 5(d)(1) of the WSR Act, and as such are not protected from proposed hydroelectric facilities or other federally assisted water resources projects. The protection afforded by Section 7(a) of the act does not apply to Section 5(d) (1) study rivers.

Therefore, water resources projects proposed on Blue River and KP Creek would be analyzed as to their effect on a river’s free flow, water quality, and outstandingly remarkable values, with adverse effects prevented to the extent of existing Agency authorities (such as special use authority). However, there are no water resource development projects intended for water supply or flood control proposed in the foreseeable future. The fish barrier proposed for construction in Blue River segment 4 could not be implemented under this alternative because it would affect the free-flowing condition of the river. There are no existing or foreseeable water projects, new roads, or any type of development projects planned for KP Creek. With no large projects proposed within the study area, there would be no foreseeable changes in management or negative effects to water quality or quantity within any of the study segments under this alternative. Rivers being studied under Section 5(d) (1) of the Wild and Scenic Rivers Act are not withdrawn from the mining or mineral leasing laws. Therefore, deferring suitability and designation of the wild segments of Blue River (segments 2 and 4) as a wild and scenic river allows for the potential of new mining or mineral leasing. However, as there are no active locatable mineral claims or mineral leasing within the project area at this time, it is unlikely that new mines would be developed in the short term (next 5 years). The absence in the river corridors of locatable, leased, or salable mineral activities, along with associated roads and other ground-disturbing actions (and potential use of polluting chemicals), describes the existing situation. Water quality impacts are possible in the future if mineral activities occur.

Foreseeable future projects include road improvements along Blue Road (FR 281). This road closely parallels the upper part of the Blue River and is a chronic source for fine sediment. Road improvements include upgrading drainage features, fixing a blind corner, and laying back the slope on some vertical cut banks (White-Trifaro, personal communication 2009). There is potential for a temporary increase in fine sediment with the road work but improved drainage features would lower the long-term addition of sediment from this road. Work that would not impact water quality of the river could occur, such as restoration work to improve habitat for native fish.

## **Alternative 2 – No Segments Suitable and Recommended Direct, Indirect, and Cumulative Effects**

The existing authorities listed in appendix D continue to apply except for interim management directed by FSH 1909.12, Chapter 82. Interim management and the potential protections afforded by designation would be discontinued. It is unlikely that a determination of unsuitable and not recommending Blue River and KP Creek for inclusion in the National system would affect water quality of the river in the short term, as protection of water quality is required by State and Federal agencies regardless of the outcome of this study.

However, effects to water quality could occur as new projects were implemented within the corridor. Future conditions may be impacted due to the potential for projects that affect the river such as river crossing upgrades, road building, road maintenance, campground improvements near the river, or water resource development projects (outside the primitive area and inventoried roadless areas). Implementation of future projects would be in accordance with existing authorities at the time, which would not include the protection of free-flowing conditions afforded by designation in the National system. At this time, mining within the watershed consists of using salable materials (gravel) from outside the active channel for road work along the river. If road building or major improvements occurred along these segments of the river, it would be expected to have detrimental effects to water quality due to the potential for elevated levels of fine sediment from road-stream connectivity. The fish barrier proposed in Blue River segment 4 could be constructed under this alternative (pending approval with appropriate environmental analysis). This barrier would impact the free-flowing condition of the river. Short-term impacts to water quality could occur during construction of the dam, but long-term impacts to water quality are not expected due to the application of best management practices required to protect water quality.

## **Alternative 3 – Some Segments Suitable and Recommended Direct, Indirect, and Cumulative Effects**

Under this alternative, Blue River segments 2, 3, part of 4, and all of KP Creek would be found suitable and recommended for inclusion in the National system. Blue River segment 1 and the lower 0.76 mile of segment 4 would be found unsuitable and not recommended for inclusion in the National system.

All suitable and recommended segments would continue to receive interim management for suitable rivers as directed in FSH 1901.12 (82) as discussed under alternative 1 and above in “Effects Common to All Suitable Determinations.”

Section 13(c) of the Wild and Scenic River Act creates a process for a Federal reserved water right for wild and scenic rivers, and Section 1(b) establishes the protection of water quality as one of the threefold purposes of the act.

The Forest Service is required to develop a comprehensive river management plan (CRMP) within 3 years of designation. Cooperation requires active participation by the Forest Service with the U.S. Environmental Protection Agency and State water quality agencies in the evaluation of existing water quality, identification of limitations, and development of the often long-term strategies necessary to address water quality related problems. The quantity of a Wild and Scenic Rivers Act Federal water right appears to be the amount necessary to achieve the purposes of the

act; here that would appear to be that amount necessary to preserve the free-flowing condition of the river and to preserve the values for which a river was protected (Baldwin 2001).

Blue River segment 2 has no active roads, with only non-motorized trails to access the river. No additional roads would be expected to be approved along this part of the river, and the wild nature of this segment would be maintained. Segment 3 has two road access points and segment 4 has no road access. Inclusion in the National system would give additional long-term protection to water quality by controls on the level of development within the wild and scenic segments.

Hydroelectric and water resources projects would be restricted upon designation of suitable segments into the National system. The Forest Service would protect the free-flowing condition and other values of the designated rivers. The Wild and Scenic Rivers Act prohibits the Federal Energy Regulatory Commission (FERC) from licensing the construction of hydroelectric facilities on rivers that have been designated as components of the National system. Further, the act prohibits other Federal agencies from assisting in the construction of any water resources project that would have a direct and adverse effect on a designated river. Proposed water resources projects below, above, or on a stream tributary to a designated river are evaluated as to their potential to invade the designated river area or unreasonably diminish the scenic, recreational, fish or wildlife values of the designated river.

The suitable segments would be protected from any future water development projects within these segments. At this time, no such projects have been proposed for Blue River segments 2, 3, and the upper part of 4, or for KP Creek. Therefore, there would be no short-term changes from recommending these rivers be added to the National system. In the long term, there would be an additional layer of protection for both the Blue River and KP Creek from future changes in management, particularly any water development projects that could affect the free-flowing condition of the Blue River or KP Creek. This alternative excludes wild segments from new mining claims for added protection for water quality along approximately 9 miles of the Blue River and 11.3 miles of KP Creek that are outside the primitive area. There is minor potential for local water quality impacts from the potentially increased recreation found at designated wild and scenic rivers. Specific management direction would be needed to mitigate these impacts if Blue River or KP Creek became more popular and recreation use increased.

Segment 1 and 0.76 mile of segment 4 would be found unsuitable and, therefore, the free-flowing condition of these segments could be altered in the future. Water development projects could change the free-flowing condition, which in turn could affect water quality and beneficial uses.

Under this alternative the fish barrier in Blue River segment 4 could be built because the free-flowing condition could be altered with the same impacts as discussed under alternative 2. The interim management guidelines intended to protect and enhance river values for eligible and suitable wild and scenic rivers would be removed from Blue River segment 1 and the lower 0.76 mile of segment 4. As segment 1 is upstream of the other segments, any additional water development projects would affect free-flowing conditions in the other segments of the Blue River. Segment 1 has the only private ownership of all the study segments, and the majority of present water withdrawals. This is also the segment most likely to have additional ground-disturbing projects planned due to access and jurisdiction. Effects for these unsuitable segments are the same as the effects described for alternative 2.

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

This alternative finds all eligible segments suitable and recommended for inclusion in the National system. These segments would continue to receive interim protection under FSH 1909.12 (82) and could be congressionally designated. Congressional action would protect all segments from all federally assisted water development projects that would adversely affect a river's free-flowing condition and water quality, and require a comprehensive river management plan be developed within 3 years of designation to protect water quality, free-flowing condition, and outstandingly remarkable values.

**Effects to Blue River segment 1:** It is not expected that designation would affect any road or irrigation ditch line maintenance. All projects would be required to follow Federal, State, and local laws and ordinances to protect water quality as they do under all the alternatives. Roads and trails are allowed in recreational segments as long as water quality, protection of ORVs, and free-flowing status is maintained. Projects on Federal lands that impact water quality or free-flowing status would not be allowed. As noted in "Effects Common to All," activities on private lands would be unaffected by designation.

**Effects to Blue River segments 2 and 3:** Effects to water quality and management implications for suitable segments are the same as those described in alternative 3 for Blue River segments 2 and 3.

**Effects to Blue River segment 4 and KP Creek:** Under this alternative, the fish barrier proposed in the lower part of Blue River segment 4 would not be constructed because it would alter the free-flowing condition of the river (appendix C). Designation under this alternative would exclude the largest area (all wild segments) from mineral leases/mining for long-term protection of water quality.

Designation would not affect the list of projects likely to occur in the near future (listed in appendix E and discussed under "Effects Common to All Alternatives" and "Alternative 1"). These projects and similar projects would likely occur periodically and would be expected to have negligible to minor short-term effects on water quality from the addition of fine sediment where ground-disturbing activities such as road work or burning occur. This alternative gives the most protection to free-flowing conditions of the river and would result in the most comprehensive management for water quality due to the CRMP and changes in forest plan direction to protect and enhance river values. This would be a long-term positive effect for water quality and especially free-flowing conditions of Blue River and KP Creek.

## **Fisheries Values**

### **Effects Common to All Alternatives**

Native fish management for Blue River and KP Creek is ongoing under plans of the Arizona Game and Fish Department (AGFD), U.S. Fish and Wildlife Service (USFWS), and Apache-Sitgreaves National Forests. The goals of these plans are to protect and conserve native fishes, including federally listed loach minnow and habitat designated as critical for loach minnow. Blue River is unique within the Gila River basin for its potential to protect and restore native aquatic species due to the relatively large amount of stream habitat, existing native fish populations, and potential to conserve species now rarely found in the watershed, such as chiricahua leopard frog.

In addition, native fish species found in adjacent watersheds such as roundtail chub in Eagle Creek, provide opportunities to re-expand their range to areas where they have been extirpated.

The following effects discussions summarize and incorporate by reference the supporting biological evaluation and biological assessment which includes detailed information regarding the existing conditions and environmental effects to threatened, endangered, and sensitive fish species.

## **Alternative 1 – No Action (Defer Suitability Determination)**

### **Direct, Indirect, and Cumulative Effects**

All five eligible river segments would continue to be managed as eligible for their potential inclusion into the National system, and the Forest Service would continue to use its existing authorities to protect free flow, water quality, recommended classification, and the fish ORV. Work that would not impact free-flowing characteristics of the river could occur such as mechanical (e.g. nets, spear guns, and electrofishing) nonnative fish removal and restoration to improve habitat for native fish. The five segments are not protected from proposed future water resource projects, such as dams, hydroelectric facilities or other in-channel modifying structures under Section 7(a) of the Wild and Scenic Rivers Act. Effects from such projects would be analyzed to prevent adverse effects to the extent Agency authority allows (such as special uses authorities). With the exception of a proposed BOR fisheries barrier, there are no foreseeable plans for water resource projects within the Blue River or KP Creek corridors. Management of the fisheries resources within the Blue River and KP Creek corridors would not change from its current condition. The current level of protection for the fish ORV as provided by the Endangered Species Act, the ASNFs forest plan, Arizona's State Wildlife Action Plan, interim wild and scenic management guidelines for eligible rivers, and other authorities (appendix D) would continue within the KP Creek and Blue River corridors.

An effect from this alternative would be to preclude approval of the channel-spanning fish barrier proposed near the mouth of Blue River. Preclusion of proposed barrier construction has the potential to increase the population of nonnative predatory fishes in Blue River such as channel catfish (*Ictalurus punctatus*) and flathead catfish (*Pylodictis olivaris*), which move upstream from the San Francisco River. Barriers have been used on many streams in the Southwest in attempts to prevent nonnative species from impacting native fish populations by blocking access to upstream habitat. Nonnative fish can out-compete and/or prey on native frogs, snakes, turtles, and fishes causing significant decreases and even extirpation of native aquatic species. Blue River currently has a relatively low percentage of nonnative fish in comparison to the San Francisco River, however, pool habitat occupied by catfishes in lower Blue River lack native fishes, except large suckers, indicating localized impacts to small bodied native fishes. More than 70 catfish were removed from the lower Blue River in June 2009. The overall rate of invasion into the Blue River from the San Francisco is not well defined. This alternative does not authorize any activities that would impede recovery; therefore this alternative will not alter the current forestwide habitat trend for aquatic macroinvertebrates. The trend of macroinvertebrates will continue to be monitored.

Appendix E lists the present, ongoing, and future actions within the Blue River and KP Creek corridors. Roads and fires (prescribed and wild) in the Blue River and KP Creek corridors could increase sediment in these areas. Increased sediment can decrease the availability of clean spawning gravels, decrease pool depth, decrease aquatic macroinvertebrate prey availability, as

well as contribute to other negative effects to the fish ORV which can decrease overall population size. However, road maintenance and prescribed fires are designed to follow best management practices which can reduce the input of sediment and other effects, such as riparian vegetation disturbance. Current human uses include water withdrawals, crossings (motor, foot, and horse), and limited fishing for trout. In 2000, Blue River showed some evidence of recovery from severe alteration of the early part of the 20th century, as observed by the National Riparian Service Team (NRST 2001).

### **Summary of Effects to Fisheries ORVs**

This alternative would not recommend designation on any segment of Blue River or KP Creek as suitable for wild, scenic, or recreational designation, however, current protections would remain in place including interim management for eligible corridors. This alternative would preclude barrier construction and allow nonnative fishes to migrate into the Blue River from the San Francisco River resulting in predation in the mainstem on native aquatic species, as currently observed in lower river pool habitat. Therefore, this alternative may affect the fish ORV through reductions in native fish populations by predation from nonnative catfishes.

### **Summary of Effects from the Biological Evaluation**

**No Impact** – desert sucker, Sonora sucker, and longfin dace.

## **Alternative 2 – No Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

With this alternative, a determination would be made that all five segments are found unsuitable for inclusion in the National system. Interim management for eligible or suitable rivers would be discontinued. Fish ORVs occur in all five of these segments. Protection and/or management from the Endangered Species Act, Apache-Sitgreaves National Forests forest plan, Arizona's State Wildlife Action Plan, and project specific biological opinions (BOs) from the USFWS (which currently allow some level of incidental take) would continue. Standards and guidelines within the ASNFs forest plan require retainment of 60 percent of potential loach minnow habitat across the forest and seek to preserve instream flows where such species are present in management area 3 (riparian).

Management of loach minnow and ESA designated critical habitat where present in Blue River segments 1 through 4 would continue at current levels.

This alternative would not authorize, but would allow for implementation of the biological opinion (BO) issued for the Central Arizona Project (CAP), which includes a key conservation measure to construct a fish barrier near the confluence of the Blue River with the San Francisco River (USDI Fish & Wildlife Service, 2008). The Bureau of Reclamation has proposed and is currently conducting NEPA analysis for a fish barrier approximately 0.5 mile upstream of the Blue River's confluence with the San Francisco River. This barrier would prevent the movement of fish upstream from the San Francisco River into the Blue River. The barrier could have an overall long-term beneficial effect on the native fish populations of the Blue River. Therefore, this alternative **may beneficially affect** fisheries ORVs. However, any projects or actions with a Federal nexus that may affect listed species or critical habitat in the unsuitable segments would

have to undergo site-specific consultation and would be consulted on in the future (including the proposed BOR fish barrier).

Cumulative effects would be the same as described for alternative 1.

### **Effects Determination and Rationale**

This alternative would release all of the segments from wild and scenic river interim management and future consideration. This has the potential to allow future water resources projects such as the development of dams, hydropower projects, or other in-channel modifying structures. However, with the exception of the proposed BOR fisheries barrier, there are no plans to develop such projects. This alternative would not preclude the construction of the fish barrier at the mouth of the Blue River. The barrier could have an overall beneficial effect on the native fish populations of the Blue River. Therefore, this alternative **may beneficially affect** fisheries ORVs.

## **Alternative 3 – Some Segments Suitable and Recommended**

### **Direct and Indirect Effects**

In this alternative, three of five segments and most of a fourth segment would be found suitable for designation. These segments would receive interim protection and could be congressionally designated. Recommendation of these segments would ensure additional protection and conservation of the fish ORVs found in these segments if they are congressionally designated. Congressional action would require a comprehensive river management plan within 3 years of designation.

Segment 1 on Blue River would be found unsuitable for inclusion in the National system and protection afforded by interim management guidelines for suitable rivers would be discontinued. A portion of segment 1 is within the Blue River Primitive Area, and this portion would continue to receive wilderness area-like protection as well as the other protections described in the alternative 2 effects. Management of the portion of segment 1 that is not within the Blue River Primitive Area could allow future water resources projects such as the development of dams, hydropower projects, or other in-channel modifying structures in the future.

### **Effects Determination and Rationale**

This alternative would release segment 1 (25.1 miles) and a 0.76 mile portion of segment 4 from wild and scenic river interim management and future consideration and allow for construction of the proposed BOR fish barrier in the lower portion of segment 4, if approved under a separate NEPA process. Under this alternative, there is the potential to allow future water resources projects such as the development of dams, hydropower projects, or other in-channel modifying structures in the released segments. However, with the exception of the proposed BOR fisheries barrier, there are no plans to develop such projects. Protections for fisheries described in alternative 2 would apply to National Forest System lands in segment 1 and to the 0.76 mile portion of segment 4. The barrier could have an overall long-term beneficial effect on native fish populations of the Blue River. Therefore, this alternative **may beneficially affect** fisheries ORVs. Because the free-flowing nature of segment 1 could be altered in the future and ESA listed loach minnow occupy segment 1, this alternative may allow for future adverse affects to loach minnow. Any projects or actions with a Federal nexus in segment 1 or 4 would have to undergo site-specific consultation, and would be consulted on in the future. This alternative does not authorize

any activities that would impede recovery of aquatic macroinvertebrates and would recommend an additional layer of protection for most of the Blue River and KP Creek, therefore, this alternative would not alter the current forestwide habitat trend for aquatic macroinvertebrates. The trend of macroinvertebrates will continue to be monitored.

### **Summary of Effects from the Biological Assessment**

**May Affect but Not Likely to Adversely Affect** – loach minnow, spikedace, roundtail chub

**No Effect** – Gila trout, Apache trout, and razorback sucker.

### **Summary of Effects from the Biological Evaluation**

**Beneficial Impact** – desert sucker, Sonora sucker, and longfin dace.

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct and Indirect Effects**

This alternative would recommend that five segments, all of which have fish ORVs, would be suitable for WSR designation. These segments would continue to receive interim protection and could be congressionally designated. Congressional action would protect and conserve all segments from federally assisted water development projects that would adversely affect a river's free-flowing condition, water quality, or fish ORVs, and require a comprehensive river management plan be developed within 3 years of designation. This alternative finds 134.4 miles that contain fish ORVs as suitable for designation.

The portion of segment 4 where the fish barrier, as described in alternative 3, is proposed for construction would be found suitable. A free flow analysis of the proposed fish barrier determined that construction would impact the free flow of water at that site in the Blue River (USDA Forest Service, 2008). Precluding the construction of the fish barrier would indirectly affect fisheries ORVs within the Blue River corridor. Nonnative fish could continue to enter the Blue River from the San Francisco River, potentially out-competing or preying on native fisheries.

Designation of these segments could prevent water resources projects such as the development of dams, hydropower projects, or other in-channel modifying structures. This would have an indirect beneficial effect on the fisheries ORVs.

### **Effects Determination and Rationale**

Finding these segments suitable for designation as wild, scenic, or recreational would have beneficial (no allowance for water resource projects that impact free flow) and negative (no fish barrier to prevent nonnative fish predation from occurring) effects on the fish ORVs of the Blue River. Therefore, the determination is that this alternative **has both potential beneficial and adverse effects to the fisheries ORV**.

## **Wildlife Values**

Please see the supporting biological evaluation and biological assessment for detailed information regarding the existing condition of wildlife values in the study corridors and the environmental effects which are summarized below.

### **Alternative 1 – No Action (Defer Suitability Determination)**

Suitability determinations would be deferred and all study river segments would continue to be managed under the existing authorities described in appendix D. In addition, the interim management guidelines for managing rivers eligible for inclusion in the National system would continue to apply to all segments.

#### **Direct, Indirect, and Cumulative Effects**

All five river segments would continue to be managed as eligible for their potential inclusion into the National system, and the Forest Service would continue to use its existing authorities to protect wildlife ORVs. Management activities in the river corridor could occur, including manipulation of vegetation which could alter habitat characteristics to benefit some wildlife species or to possibly reduce habitat for other wildlife species depending on the life history requirements of the species.

Rare wildlife species dependent on the river corridors could be adversely affected by future water resources projects such as the development of dams, hydropower projects, or other in-channel modifying structures. The effects of such projects could change outstandingly remarkable wildlife values due to the impact to the water flow and possible change to vegetation (habitat) in the study corridor on either side of the river. With the exception of the proposed BOR fisheries barrier, there are currently no plans to develop water resource projects within the Blue River or KP Creek corridors. Management of the wildlife resources within the Blue River and KP Creek corridors would not change from its current condition. The current level of protection for the wildlife ORVs as provided by the ESA, ASNFs forest plan, Wild and Scenic Rivers Act, Arizona's State Wildlife Action Plan, Migratory Bird Treaty Act, and other local and Federal authorities (appendix D) would continue within the KP Creek and Blue River corridors.

#### **Effects Determination and Rationale**

This alternative **would not affect or impact** the wildlife ORVs because of the existing authorities that are currently in place and which would continue.

#### **Summary of Effects from the Biological Evaluation**

**No Impacts** are expected on aquatic or semi-aquatic sensitive species or their habitats: bald eagle, southwestern river otter, New Mexico jumping mouse, American peregrine falcon, common black-hawk, western yellow-billed cuckoo, Bell's vireo, northern leopard frog, lowland leopard frog, Arizona toad, Mexican garter snake, narrow-headed garter snakes, and White Mountains water penny beetle.

### **Alternative 2 – No Segments Suitable and Recommended**

#### **Direct and Indirect Effects**

In this alternative, a determination would be made that all river segments are found unsuitable and released from wild and scenic river interim protection as directed by FSH 1901.12 (82.5). Protection of river values would continue to be managed by existing laws and regulations and standards provided in the forest plan. Alternative 2 would provide the least level of long-term protection to wildlife since no stream segment would be identified as suitable and ultimately designated in the National system. This alternative in itself would not cause any changes to

outstandingly remarkable wildlife values, nor would it provide any additional protection to these wildlife values.

Over time, depending on area management standards, large-scale projects like dams, water projects and other activities such as timber harvest and road building, could be approved for some segments, affecting outstandingly remarkable wildlife values.

Current management incorporates mitigations and project design features to protect sensitive species. Federally listed species would continue to be under the protection of the Endangered Species Act (ESA) and any existing recovery plans. Any projects or actions with a Federal nexus that may affect listed species or critical habitat in the unsuitable segments would have to undergo site-specific ESA consultation, and would be consulted on in the future. If, after appropriate environmental analysis, the proposed fish barrier is constructed, there would be long-term benefits to aquatic species such as the narrow headed garter snake, loach minnow, and lowland leopard frogs, which are likely to occur in the lower river.

### **Summary of Effects from the Biological Evaluation**

**No Impacts** are expected on aquatic or semi-aquatic sensitive species or their habitats: bald eagle, southwestern river otter, New Mexico jumping mouse, American peregrine falcon, common black-hawk, western yellow-billed cuckoo, Bell's vireo, northern leopard frog, lowland leopard frog, Arizona toad, Mexican garter snake, narrow-headed garter snakes, and White Mountains water penny beetle.

### **Alternative 3 – Some Segments Suitable and Recommended**

Habitats and populations of federally listed, Forest Service sensitive, and management indicator species in the segments found unsuitable under alternative 3 would not have the higher level of protection afforded by eligibility, interim management guidelines, and inclusion in the National system. Any ground-disturbing project proposed in the unsuitable segments would be conducted under forest plan direction (including all mitigations and project design features) and other existing authorities designed to protect wildlife values. There is potential for disruption to wildlife travelways if segments are not designated contiguously. Populations and habitats for TES species are discussed in the BA and BE.

Under alternative 3, populations and habitats of management indicator species would continue to fluctuate naturally or follow current trends but a downward trend is possible in those segments not designated, particularly those species sensitive to fragmentation. Protection authorities for federally listed and Forest Service sensitive species are discussed in the biological assessment and biological evaluation for this project. If, after appropriate environmental analysis, the proposed fish barrier is constructed, there would be long-term benefits to aquatic species such as the narrow headed garter snake, loach minnow, and lowland leopard frogs which are likely to occur in the lower river.

Changes in vegetation which could occur due to management actions in the unsuitable segments may affect wildlife. All terrestrial species can be affected by the distribution and amount of successional stages and age classes in a vegetation community. Any change in vegetation diversity, juxtaposition, or age class would be beneficial to some species and a detriment to others. Big game is affected the least because of mobility and how they use variations in

vegetation (hiding cover, thermal cover, and foraging). Many species (game and nongame) have adapted, to some degree, in the same way. Migratory birds may be the least adapted. Ground nesting migratory birds prefer an abundance of grasses, forbs, and shrubs to help hide nests and make little use of areas without ground cover. Canopy nesting birds may pay little attention to ground cover but are tied to canopies, canopy cover, and their height above the ground.

For segments found suitable, ground-disturbing activities may occur as long as ORVs, free flow, and classification of recreational, scenic, or wild are protected. Protection of the river corridor from ground-disturbing activities may allow the area to proceed through natural successional stages and leads to mature and old age classes of vegetation favoring species that prefer mature and old age classes. Whether protected or not, catastrophic natural events such as fire, flood, wind, and disease can affect succession and age class diversity within vegetation types in all stages of succession.

### **Summary of Effects from the Biological Assessment**

**May Affect but Not Likely to Adversely Affect** – the Mexican spotted owl, Southwestern willow flycatcher, and Chiricahua leopard frog.

**Long-term Beneficial Effect** – Chiricahua leopard frog.

**No Effect** – Mexican gray wolf.

**No Impacts** – bald eagle, Southwestern river otter, New Mexico jumping mouse, American peregrine falcon, common black-hawk, western yellow-billed cuckoo, Bell’s vireo, northern leopard frog, lowland leopard frog, Arizona toad, Mexican garter snake, narrow-headed garter snakes, and White Mountains water penny beetle.

### **Summary of Effects from the Biological Evaluation**

**No Impacts** are expected on aquatic or semi-aquatic sensitive species or their habitats: bald eagle, southwestern river otter, New Mexico jumping mouse, American peregrine falcon, common black-hawk, western yellow-billed cuckoo, Bell’s vireo, northern leopard frog, lowland leopard frog, Arizona toad, Mexican garter snake, narrow-headed garter snakes, and White Mountains water penny beetle.

There could be “**Beneficial Impacts**” to sensitive species within any river segments that are designated.

### **Alternative 4 – All Segments Suitable and Recommended**

Under alternative 4, there is no change other than natural fluctuation expected in population trends for any management indicator terrestrial species. Since all segments within the river corridor may be designated, alternative 4 would likely provide a higher level of protection to MIS species than alternatives 2 and 3, allowing the population trend for MIS species to possibly increase.

There would be no effect/no impact on terrestrial TES species because there are no ground-disturbing activities proposed in this action.

Protection of the river corridor for ORVs, free flow, and maintaining the classification of recreational, scenic, or wild, may include site-specific ground-disturbing activities. Any activities would be designed to protect or enhance the wildlife and vegetation ORVs, thus short-term disturbances may occur for long-term beneficial objectives. Some species such as the Mexican spotted owl would be supported by natural succession that supports areas of mature and old age classes of vegetation. Whether protected or not, catastrophic natural events such as fire, flood, wind, and disease can affect succession and age class diversity within vegetation types in all stages of succession. Alternative 4 would offer a higher level of protection to all threatened, endangered, proposed and sensitive wildlife species within the area of influence (one-quarter mile each side of the river segment).

**Summary of Effects from the Biological Evaluation**

**No Impacts** are expected on aquatic or semi-aquatic sensitive species or their habitats: bald eagle, southwestern river otter, New Mexico jumping mouse, American peregrine falcon, common black-hawk, western yellow-billed cuckoo, Bell’s vireo, northern leopard frog, lowland leopard frog, Arizona toad, Mexican garter snake, narrow-headed garter snakes, and White Mountains water penny beetle.

**Comparison of Alternatives – Populations and Habitat**

Out of 14 MIS species, 3 are associated with riparian corridors or aquatic/riparian habitats. Five federally listed species are associated with these same habitats, and 13 sensitive species are riparian or aquatic habitat dependent. Tables 18, 19, and 20 compare alternatives by species associated with riparian and/or aquatic habitats and their measurement indicators.

**Table 18. Effects to MIS species – population and habitat**

Species	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Lincoln’s sparrow	Trend would remain the same (declining)	Trend would remain the same (declining)	Trend could become static in parts of the corridors	Trend could become stable
Aquatic macro-invertebrates	Trend would remain static	Trend would remain static	Trend could become stable	Trend could become stable or could become upward
Cinnamon teal	Trend would remain stable	Trend would remain stable	Trend would remain stable	Trend would remain stable or could become upward

**Table 19. Summary of effects to threatened (T) or endangered (E) species**

<b>Species</b>	<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>
Mexican gray wolf	No effect	No effect	No effect	No effect
Mexican spotted owl	No effect	No effect	No effect	No effect.
Southwestern willow flycatcher	No effect	No effect	No effect	No effect
Chiricahua leopard frog	No effect	No effect	No effect	No effect

**Table 20. Effects to riparian and aquatic associated sensitive species (all species)**

<b>Alt. 1</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>
No impact	No impact	No impact	No impact

## **Recreation Values**

### **Measurement Indicators**

- Acres of recreation opportunity spectrum (ROS) class per segment.
- Type of river related recreation opportunity available per segment.

### **Effects Common to All Alternatives**

Arizona State Fish and Game Department hunting and fishing regulations are unaffected by any alternative (and the WSRA per 13(a)). For wild and scenic rivers, we may recommend changes if necessary to protect value; however, fish and wildlife species’ management remains a state responsibility.

### **Alternative 1 – No Action (Defer Suitability Determination)**

#### **Direct, Indirect, and Cumulative**

Current management would continue including all existing authorities noted in appendix D. Interim management guidelines for eligible segments would apply as directed by FSH 1901.12(82).

Current forest plan direction would sustain the following recreation opportunities within the Blue River and KP Creek corridors.

**Table 21. Alternative 1 recreation opportunities by segment**

Recreation Opportunity	Segment				
	BR-1	BR-2	BR-3	BR-4	KP Creek
Picnicking	X				
Mountain biking	X				
Swimming	X				
Camping	X	X			
Hiking	X	X	X	X	X
Hunting	X	X	X	X	X
Fishing	X	X			
Backpacking		X	X	X	X
Horse packing		X	X	X	X
Canoeing				X	
Kayaking				X	

Current forest plan direction would continue to provide a range of recreation opportunity spectrum (ROS) classes that would offer forest visitors a variety of settings to recreate in. The types of recreation opportunities currently available in both the Blue River and KP Creek corridors would continue to be available to forest visitors. Table 22 displays the existing ROS acreage for each segment of the Blue River and KP Creek.

No cumulative effects to the recreation setting or array of recreation opportunities from ongoing road maintenance, Bear Fire Trail relocation, or dispersed and developed recreation activities are expected to occur. There is a reasonable foreseeable change in transportation management that may change designation of motorized roads and trails in the area. This may lead to changes in the ROS settings and changes in the recreation opportunities available in areas with any designation changes.

**Table 22. ROS acreage by eligible segment for alternative 1**

Eligible Segment	ROS Class			
	P	SPNM	SPM	RN
1		98	205	6,875
2	3,785	491	498	182
3	200		71	1,000
4		2,234	134	74
KP Creek	2,409	623		780
Total Acres per ROS Class	6,394	3,446	908	8,837

P = Preservation; SPNM = Semiprimitive, nonmotorized; SPM = Semiprimitive motorized; RN= Roded natural.

## Alternative 2 – No Segments Suitable and Recommended Direct, Indirect, and Cumulative Effects

Although no segments would be found suitable or recommended for inclusion in the National system, the ROS classes would likely be maintained in the Blue River and KP Creek corridors under alternative 2 with the existing forest plan direction. This would result in maintaining the same ROS acreage as displayed in alternative 1. Management Areas 8 (Blue Range Primitive Area) and 18 (Sandrock) provide an emphasis on recreation, specifically on primitive and semiprimitive ROS settings and the recreation activities that occur in those settings. The 13,437 acres of Management Areas 8 and 18 would continue to provide emphasis on primitive and semiprimitive ROS and associated activities. This constitutes 69 percent of the study corridors. Management Areas 1 (timberlands), 2 (pinyon-juniper woodlands), 3 (riparian), and 4 (grasslands) do not emphasize recreation and could have a change in the acreages of ROS classes over time as a variety of management activities could take place resulting in cumulative effects.

Current forest plan direction would sustain the same recreation opportunities within the Blue River and KP Creek corridors as in alternative 1. Interim management guidelines for rivers eligible for inclusion in the National system would be discontinued, so restrictions to facilities and use designed specifically to protect river related values as described in appendix D would no longer be required.

Cumulative effects would be the same as described for alternative 1.

## Alternative 3 – Some Segments Suitable and Recommended Direct, Indirect, and Cumulative Effects

Table 23 displays the acres of ROS classes that would be maintained in the Blue River and KP Creek corridors under alternative 3.

A suitability determination would provide additional protection and emphasis on the ROS settings and recreation opportunities available under this alternative.

**Table 23. ROS acreage by suitable segment for alternative 3**

Suitable Segment	ROS Class			
	P	SPNM	SPM	RN
2	3,785	491	498	182
3	200		71	1,000
Modified 4		2,007	134	74
KP Creek	2,409	623		780
Total Acres per ROS Class	6,394	3,121	703	2,036

P = Preservation; SPNM = Semiprimitive, nonmotorized; SPM = Semiprimitive motorized; RN= Roded natural.

A suitability determination of these river segments would sustain and provide additional emphasis to the recreation opportunities within the Blue River and KP Creek corridors as discussed in alternative 1. Designation would require that the types and amounts of public use the river area

can sustain without adverse impact to other values be identified in the comprehensive river management plan.

Although Blue River segment 1 and the lower portion of segment 4 are not included in the suitability recommendation, current forest plan direction would likely sustain management of the ROS classes in those areas. Effects to recreation values in these segments would be similar as those described in alternative 2 for unsuitable segments.

Cumulative effects would be the same as described for alternative 1.

**Alternative 4 – All Segments Suitable and Recommended  
Direct, Indirect, and Cumulative Effects**

The ROS classes that would be maintained in the Blue River and KP Creek corridors under alternative 4 are the same acreage as alternative 1. Table 24 displays the acres of the ROS classes that would be maintained for each segment of the Blue River and KP Creek.

**Table 24. ROS acreage by suitable segment for alternative 4**

Segment	ROS Class			
	P	SPNM	SPM	RN
1		98	205	6,875
2	3,785	491	498	182
3	200		71	1,000
4		2,234	134	74
KP Creek	2,409	623		780
Total Acres per ROS Class	6,394	3,446	908	8,837

This alternative would provide the greatest protection and emphasis of ROS classes and associated recreation opportunities for all segments of the Blue River and KP Creek. The following recreation opportunities would be available:

- Blue River Segment 1 – picnicking, camping, swimming, mountain biking, horseback riding, hunting, and hiking.
- Blue River Segment 2 – hiking, horse packing, backpacking, camping, and hunting.
- Blue River Segment 3 – the trail network provides an array of opportunities including, but not limited to, hiking, horseback riding, hunting, and backpacking.
- Blue River Segment 4 – advanced canoeing and kayaking, hiking, hunting, and horseback riding.
- KP Creek – hiking, fishing, backpacking, horseback riding, and hunting.

Upon designation, a comprehensive river management plan would be developed which would require that the types and amounts of public use the river area can sustain without adverse impact to other values be identified.

Cumulative effects would be the same as described for alternative 1.

## Scenery Values

### Effects Common to All Alternatives

Current management of the Blue River as mainly a partial retention corridor (along with a small acreage allowing modification) does not provide enough protection to ensure that the visual resource ORVs would be maintained or enhanced over time. The activities allowed in Management Areas 1 and 2 are often not compatible with maintaining the visual resource outstandingly remarkable value for the Blue River and KP Creek. However, the proposed forest plan amendment states that any activities proposed in the wild and scenic river corridors must comply with the interim management guidelines for eligible or suitable rivers established in FSH 1909.12 Ch. 82.50, and Ch. 82.51. These management guidelines ensure the protection of all outstandingly remarkable values of eligible or suitable rivers, and supersede the forest plan VQO direction. Therefore, recognizing that the forest plan does not ensure protection of the visual resource ORVs, FSH 1909.12 Ch. 82.50, and Ch. 82.51 do ensure these ORVs would be protected, maintained, or enhanced as a result of any future management activities.

### Alternative 1 – No Action (Defer Suitability Determination)

#### Direct, Indirect, and Cumulative Effects

Table 25 shows the amount of acres of each management area in this alternative.

Management Areas 1 and 2 cover 21 percent of the Blue River and KP Creek eligible corridors. Management Area 1 allows for lands to be managed for modification and maximum modification visual quality objectives (VQOs). Management Area 2 provides limited direction for management of visual resources regarding timber harvesting. These management areas are not compatible with maintaining the visual resource outstandingly remarkable value for the Blue River and KP Creek, however as stated above, the forest plan amendment proposed in this alternative would provide direction to protect, maintain, or enhance the scenery ORV in all future management activities.

**Table 25. Management area acreage for eligible segments in alternative 1**

Management Area Acres*					
MA-1 Timberlands	MA-2 Woodlands	MA-3 Riparian	MA-4 Grasslands	MA-8 Blue Primitive Area	MA-18 Sandrock
790	3,200	1,788	113	11,066	2,371

The majority of the Blue River is currently managed as partial retention VQO. Management activities could occur that would alter scenic resources and diminish the scenic attributes that make it an ORV.

Interim management guidelines for eligible rivers would continue, however, no specific direction exists for managing visual resources. The guidelines do require that any recreation facilities be “screened from view from the river to the extent possible.” (FSH 1901.12 (82.5))

Current management of the Blue River as mainly a partial retention corridor does not provide enough protection to ensure that the visual resource ORVs would be maintained or enhanced over time. Management Areas 1 and 2 are not compatible with maintaining the visual resource outstandingly remarkable value for the Blue River and KP Creek, however as stated above, the forest plan amendment proposed in this alternative would provide direction to protect, maintain, or enhance the scenery ORV in all future management activities.

Cumulative effects from ongoing and reasonably foreseeable future management activities (appendix E) such as road maintenance, travel management, and developed recreation would not affect scenery resources. The reasonably foreseeable activities of acquiring additional forest system lands (the recent land exchanges noted in appendix E were not tied to meeting wild and scenic river objectives) could maintain scenic qualities in the cumulative effects analysis area. The reasonably foreseeable activities of the Campbell Flat prescribed burn, Campbell Blue wildland-urban interface analysis, development of private property, and unauthorized motorized use could negatively affect scenic resources within the cumulative effects analysis area. In the past, unauthorized motorized use has adversely affected scenery, and the intent is to appropriately regulate such activity in the future.

## **Alternative 2 – No Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Under this alternative, visual resources would be managed under the existing forest plan direction. Management direction for visual resources would enable a variety of management activities to occur in the Blue River and KP Creek corridors. Current management of the Blue River as mainly a partial retention corridor does not ensure that the visual resource values would be maintained or enhanced over time. Under this alternative the scenery values would not be protected, maintained, or enhanced in accordance with direction for the protection of eligible, suitable or designated rivers.

In addition to the cumulative effects described under alternative 1, a fish barrier may be constructed (after appropriate environmental analysis) in Blue River segment 4 if found unsuitable. Fish barriers could alter visual resources. Impacts to visual resources could include alterations to streamflow, and the appearance of the barrier itself may impact the visual quality of the river corridors.

## **Alternative 3 – Some Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

A suitability determination would provide additional protection and emphasis on the visual resources in Management Areas 1, 2, 3, and 4 than what would occur in alternative 2.

**Table 26. Management area acreage for suitable segments in alternative 3**

Management Area Acres					
MA-1 Timberlands	MA-2 Woodlands	MA-3 Riparian	MA-4 Grasslands	MA-8 Blue Primitive Area	MA-18 Sandrock
220	1,020	972	113	7,175	2,371

A suitability determination of these river segments would sustain and provide additional emphasis to the visual resources within the Blue River and KP Creek corridors. Although Blue River segment 1 and the lower portion of segment 4 are not included in the suitability recommendation, current forest plan direction would allow a variety of management activities to occur in those areas that may or may not meet the assigned VQOs. Visual resource ORVs would be best protected with a suitability determination. Current management of the Blue River as mainly a partial retention corridor does not provide enough protection to ensure that the visual resource ORVs would be maintained or enhanced over time. Management Areas 1 and 2 are not compatible with maintaining the visual resource outstandingly remarkable value for Blue River and KP Creek, however as stated above, the forest plan amendment proposed in this alternative would provide direction to protect, maintain, or enhance the scenery ORV in all future management activities.

Cumulative effects are the same as described under alternative 1. In addition, fish barriers may be constructed (after appropriate environmental analysis) in segments found unsuitable. Fish barriers could alter visual resources. Impacts to visual resources could include alterations to streamflow, and the appearance of the barrier itself may impact the visual quality of the river corridors.

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

This alternative would provide the greatest protection and emphasis of visual resources for all segments of the Blue River and KP Creek. As stated above, the forest plan amendment proposed in this alternative would provide direction to protect, maintain, or enhance the scenery ORV in all future management activities.

Cumulative effects are the same as described under alternative 1.

## **Historic and Prehistoric Cultural Values**

In many places, river corridors or waterways are hubs of past cultural activity. Through history, waterways have provided a source of food, hydration, passage, industry, irrigation, and a way of life. The types of sites present in the Blue River corridor vary from prehistoric to historic, and from small artifact scatters to the remains of large-scale dwelling sites and ranching activity.

There are three key factors that facilitate an analysis of multiple alternatives. These factors run consistently through a discussion of comparing alternatives to designate suitable segments of wild, scenic and recreational streams. These are:

1. Suitability determinations require no ground-disturbing activities. However, ground-disturbing activities are likely to occur after the suitability is determined. These activities

- may include increased use by recreationists, forest projects including vegetation management, mineral withdrawals, permitting, or road maintenance.
2. Designation of a stream segment as wild, scenic or recreational provides additional resource protection as directed by the Wild and Scenic Rivers Act. Future project proposals and activities within the designated corridor would be required to improve or protect the outstandingly remarkable values such as historic and prehistoric cultural resources.
  3. Designation alone does not fulfill the requirement of Section 106 or any other regulations for any undertakings or activities that occur after the designation. Future project proposals within the area of potential effect (APE) would require the heritage analyses necessary to comply with applicable laws, regulations, and policies in place to protect cultural resources, including the National Historic Preservation Act (NHPA) and forest plan.

### **Effects Common to All Alternatives**

A wild, scenic, or recreational designation under the Wild and Scenic Rivers Act does not offer any specific protection to cultural resources located within the APE. The same laws that regulate Federal undertakings and the management of cultural resources (appendix D) are applicable in these areas and protect cultural resources and exploitation of the proposed segments. Given these regulations are followed (regardless of alternative), future effects to the cultural resources are limited. However, increased traffic, recreationists, and continued use of the corridor could have an adverse effect. These potential effects should be addressed in the comprehensive river management plan developed after designation for suitable segments, and in an overall cultural resource monitoring and evaluation plan for the river corridors even if not designated.

### **Alternative 1 – No Action (Defer Suitability Determination)**

#### **Direct, Indirect, and Cumulative Effects**

Activities associated with alternative 1 would not cause any new effects to cultural resources located in the Blue River corridor. Past, present, and foreseeable actions in the APE include prescribed burning, permitting, wildfire suppression, road maintenance, road designation, a fish barrier, trail restoration, water diversions, administrative use, land acquisition or exchanges, recreational use, private development and associated activities, and grazing. It is unknown if these activities have any effect on cultural resources, as no formal resource survey has been recently conducted in the APE to date. The Federal regulations (NHPA, EO 11953) and forest plan objectives provide protection of cultural resources. There are no regulations protecting cultural resource sites on private lands. In alternative 1, existing or undiscovered cultural resources could be adversely affected by activities on private lands, as some sites are located on the boundaries of private and forest boundaries. Lack of evaluation or monitoring such sites could compromise their integrity and eventual evaluation for the National Register of Historic Places (NRHP).

Conversely, all activities on Federal lands are considered Federal undertakings and require a heritage analysis to comply with Section 106 of the National Historic Preservation Act of 1966 and forest plan standards and guidelines. The purpose of such an analysis is to monitor existing sites and condition, and record new sites. These sites should then be evaluated for NRHP eligibility. A heritage analysis would also provide the opportunity to identify past and present effects to cultural resources within the APE.

## **Alternative 2 – No Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Even though determined to be unsuitable for inclusion in the National system, and wild and scenic river interim protection discontinued, the river corridors would continue to be managed by the laws, regulations and policies that protect cultural resources. This alternative would not cause any changes to outstandingly remarkable heritage values.

Activities associated with alternative 2 would not cause any new effects to cultural resources located in the Blue River corridor. Since the protection of resources would continue to be managed by existing laws and regulations, no new effects are anticipated. Past, present and foreseeable actions in the APE include prescribed burning, permitting, wildfire suppression, road maintenance, road designation, fish barriers, trail restoration, water diversions, administrative use, land acquisition or exchanges, recreational use, private development and associated activities, and grazing. It is unknown if these activities have any effect on cultural resources, as resource surveys have not been conducted in the APE to date. The Federal regulations mentioned previously (NHPA, EO 11953) and forest plan objectives provide protection of ORVs.

There are no regulations protecting cultural resources on private lands. In alternative 2, existing or undiscovered cultural resources could be adversely affected by activities on private lands, as some sites are located on the boundaries of private and forest boundaries. Lack of evaluation or monitoring such sites could compromise their integrity and eventual evaluation for the NRHP. Conversely, all activities on Federal lands are considered Federal undertakings and require a heritage analysis to comply with Section 106 of the National Historic Preservation Act of 1966 and forest plan standards and guidelines. The purpose of such an analysis is to monitor existing sites and condition, and record new sites. These sites should then be evaluated for NRHP eligibility. A heritage analysis would also provide the opportunity to identify past and present effects to cultural resources within the APE.

## **Alternative 3 – Some Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Alternative 3 recommends segments 2, 3, and the upper portion of 4 (4a) as suitable. Segments 1 and 4b would be found unsuitable. There are 92 sites located in segment 1 and 1 site in segment 4b. Even though unsuitable for inclusion in the National system and wild and scenic river interim protection would be discontinued, segments 1 and 4b would continue to be managed by the laws, regulations and policies that protect cultural resources. This alternative would not cause any changes to outstandingly remarkable heritage values.

Past, present and foreseeable actions in the APE include prescribed burning, permitting, wildfire suppression, road maintenance, road designation, fish barriers, trail restoration, water diversions, administrative use, land acquisition or exchanges, recreational use, private development and associated activities and grazing.

There are no regulations protecting cultural resources on private lands. In alternative 3, existing or undiscovered cultural resources could be adversely affected by activities on private lands, as some sites are located on the boundaries of private and forest land. Lack of evaluation or monitoring such sites could compromise their integrity and eventual evaluation for the NRHP. Conversely, all activities on Federal lands are considered Federal undertakings and require a

heritage analysis to comply with Section 106 of the National Historic Preservation Act of 1966 and forest plan standards and guidelines. The purpose of such an analysis is to monitor existing sites and condition, and record new sites. These sites should then be evaluated for NRHP eligibility. A heritage analysis would also provide the opportunity to identify past and present effects to cultural resources within the APE. This alternative could provide an additional layer of protection to cultural resources over time, in addition to other relevant laws and policies due to the potential restrictions to ground-disturbing activities in the designated river corridors.

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

The effects of alternative 4 are the same as those described for suitable segments in alternative 3.

### **Summary of Effects**

Since the sites within the APE are unevaluated for NRHP, it is difficult to determine the role that these sites should play within an ORV status. Many sites may be considered ineligible for the NRHP, while some likely are eligible. Likewise, the possibility of more sites being located in the project area is highly likely, as a survey of the previously unsurveyed areas has not been completed. The sheer density and variety of sites certainly indicates that this area was a hub of cultural activity and significant for that reason.

Regardless of WSR designation or eligibility, other laws that manage archaeological sites provide protection to all sites in the corridor. Given these laws and that this project has no ground-disturbing activities, effects to the cultural resources are limited. However, increased traffic, recreationists, and continued use of the corridor could have an adverse effect. The comprehensive river management plan developed after designation should address monitoring and evaluation for historic and prehistoric resources within the corridor to assess short- and long-term effects and to ensure protection.

## **Vegetation Values**

The following effects discussion summarizes and incorporates by reference the supporting biological evaluation (BE) located in the project record. The BE includes full documentation of the plant characteristics, potential for occurrence in the study corridors, the affected environment, and the environmental effects.

The area of influence for this analysis is one-quarter mile on each side of the study segments.

Two important factors in this analysis are:

- There will be no ground-disturbing activities in determining suitability.
- Designation of a stream segment in the National Wild and Scenic Rivers System as wild, scenic or recreational provides long-term protection of the vegetation outstandingly remarkable value.

Upon designation, all outstandingly remarkable values must be protected. Future proposed actions must be designed to maintain, protect, or enhance all outstandingly remarkable values. Standards that regulate timber production, grazing, water supply, hydroelectric power, flood

control, mining, road construction, agriculture, recreational development, structures, utilities and motorized travel all protect habitat and adverse effects to outstandingly remarkable values.

## Effects Analysis

The following assumptions are incorporated into this effects analysis:

- Congress may or may not act to designate any segments found suitable and recommended by this analysis.
- Uses and activities occurring on private lands within the study corridors would continue. The addition of Blue River and KP Creek into the National system would not affect uses and activities on private lands as designation confers no regulatory authority to the river administering agency for management of non-Federal lands.
- The cumulative effects analysis considers the projects listed on the ASNFs' schedule of proposed actions at the time of this analysis, as well as ongoing uses and activities in the analysis area (see appendix E). Reasonably foreseeable future actions are those anticipated in and near the study corridors in the near future.

Environmental effects to plants is measured by the effects to populations and habitat, and focuses on vegetation management activities and livestock grazing which have the greatest impact on the sensitive plant species populations and habitat.

## Alternative 1 – No Action (Defer Suitability Determination)

### Direct, Indirect, and Cumulative Effects

No direct, indirect, or cumulative effects on vegetation ORVs are expected with implementation of alternative 1. All segments would continue to be managed to maintain eligibility, so protection of vegetation ORVs would continue as specified in FSH 1909.12, Chapter 80, Section 82.5. Any management actions proposed in the area would be subject to site-specific NEPA analysis, as well as other relevant laws, regulations and policies. In addition, forest plan direction for eligible wild and scenic river corridors would apply.

Activities affecting vegetation would be guided by direction in the ASNFs' forest plan and would be consistent with Agency policy to protect the outstandingly remarkable vegetation values of the Blue River. This interim policy states in part:

**Wild rivers** - Cutting of trees and other vegetation is not permitted except when needed in association with a primitive recreation experience such as to clear trails or to protect users or the environment, including wildfire suppression. Prescribed fire and wildland fire may be used to restore or maintain habitat for threatened, endangered, or sensitive species and/or restore the historic range of variability.

**Scenic or Recreational rivers** - A range of vegetation management and timber harvest practices are allowed, provided that these practices are designed to protect, restore, or enhance the river environment, including the long-term scenic character.

## **Forest Service Sensitive Plants**

*Goodding's onion, Blumer's dock, Bebb's willow, yellow lady's slipper*

Permitted livestock grazing in the study corridors has been reduced to water crossing activities, a minimal number of equine uses, or has been discontinued within the proposed boundary on both the Blue River and KP Creek. Current management for livestock grazing will continue. There could be negative impacts to sensitive plant species habitat due to livestock entering and exiting the watercourse through the riparian areas. There is also potential for any existing fences to be breached if not secure enough and maintained.

Vegetation management activities would be allowed under current management direction in particular segments, according to forest plan management area direction. However, riparian areas are protected through forest plan direction that requires a 100-foot buffer (minimum, determined in part by slope) of all timber harvest to maintain shading for populations along stream corridors.

This alternative will have **no impact** on any populations of sensitive plant species or habitats given the fact that livestock grazing has been reduced to water crossings and timber harvest requires adequate buffers. Habitat, reproduction, numbers, and distribution of this species will not be changed under alternative 1.

## **Alternative 2 – No Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

No direct effects on vegetation ORVs are expected with implementation of alternative 2, but indirect effects could include changes in vegetation diversity because restrictions identified in FSH 1909.12 on the types of vegetation management allowed within areas suitable for designation as wild, scenic or recreational would no longer apply. As a result, vegetation diversity could be changed as a result of management actions implemented in areas that were once eligible for consideration under the Wild and Scenic Rivers Act.

No cumulative effects are predicted. Although none of the segments would be protected under FSH 1909.12, they would continue to be subject to Forest Service requirements for management actions that could influence vegetation diversity. Any management actions proposed would be subject to site-specific NEPA analysis, as well as other relevant laws, regulations, policies, and plans.

## **Forest Service Sensitive Plants**

*Goodding's onion, Blumer's dock, Bebb's willow, yellow lady's slipper*

It is unlikely that not recommending inclusion in the National Wild and Scenic Rivers System would affect populations or habitat for sensitive plant species in the short term, as management and protection of sensitive species must be considered when implementing projects regardless of the outcome of this study. But, if new grazing allotments are allowed and there is an increase in livestock grazing, habitat or populations of these species could be adversely affected if cattle drift into the riparian areas. However, both districts have fencing in place along both river corridors, some of which has been there since the 1930s and other fencing was newly constructed during the late 1990s. In addition to fencing, there are some natural barriers along the riparian corridor that prevent livestock grazing from occurring within the river corridors. Livestock is constantly monitored through compliance checks by the district range staff.

This alternative will have **no impact** on any existing populations of sensitive plant species or indirect effect to the habitat of these species given the protection measures in place at the current level of livestock grazing (fences, monitoring, etc.). Protections offered under the forest plan including any project design features incorporated into proposed projects will provide protection for sensitive plant species. Current levels of protection from the plan will continue including a 100-foot buffer established during timber sale planning.

### **Alternative 3 – Some Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Direct, indirect, and cumulative effects from implementation of alternative 3 would be consistent with effects discussed in alternatives 2 (for unsuitable segments) and 4 (for suitable segments).

Where segments are recommended, no direct or indirect effects on vegetation ORVs are expected. No ground-disturbing activities are proposed, so no change in vegetation diversity would occur. Restrictions to vegetation management activities in FSH 1909.12 would apply if this alternative was implemented. These restrictions are based on classification of segments as wild, scenic, or recreational (FSH 1909.12).

#### **Forest Service Sensitive Plants**

*Goodding's onion, Blumer's dock, Bebb's willow, yellow lady's slipper*

Designation of Blue River segments 2, 3, and 4a as well as KP Creek would provide additional protection for sensitive plant species, although these species will continue to be protected under the forest plan, specifically from fencing out of livestock and buffers on vegetation management projects. In addition, designation affords certain legal protection from adverse development, e.g., prohibits construction of dams and other federally assisted water resource development projects judged to have an adverse effect on river values. The act also withdraws Federal lands within wild classified segments from locatable and leasable mineral entry. However, most current uses and activities on Federal lands within the corridors may continue so long as they protect river values. Uses and activities on Federal lands that have the potential to affect river values such as sensitive plant species habitats would be addressed through site-specific environmental analyses on a case-by-case basis.

This alternative will have **no impact** on sensitive plant species and will provide some amount of protection to sensitive plant species over and above protection measures from the forest plan.

### **Alternative 4 – All Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

No direct, indirect, or cumulative effects on vegetation ORVs are expected with implementation of alternative 4. No ground-disturbing activities are proposed in this alternative, so no change in vegetation diversity would occur. Restrictions to vegetation management activities in FSH 1909.12 would apply if this alternative was implemented. These restrictions are based on classification of segments as wild, scenic, or recreational (FSH 1909.12).

## **Forest Service Sensitive Plants**

*Gooding's onion, Blumer's dock, Bebb's willow, yellow lady's slipper*

Alternative 4 would have no direct effect on the populations of the sensitive plant species or indirect effect to the habitat of this species. This alternative will provide the most amount of protection to sensitive plant species over and above the forest plan as all segments are recommended for designation.

This alternative will have **no impact** on sensitive plant species and will provide long-term protection to sensitive plant species over and above protection measures required by current management, including the forest plan.

## **Landownership and Land Uses**

### **Alternative 1 – No Action (Defer Suitability Determination)**

#### **Direct, Indirect, and Cumulative Effects**

Private landownership and uses in Blue River segment 1 would be unaffected by continued interim management of NFS lands as a potential wild and scenic river. The private lands would continue to be regulated through Greenlee County zoning and as rural RU-36 (one dwelling unit per 36 acres). This low level of permissible rural development, current conditions and trends in Greenlee County, and present landowner stewardship as evident in collaborative planning efforts are likely to protect river and riparian values into the foreseeable future.

NFS lands in Blue River and KP Creek would continue to be managed as a potential wild and scenic river, protecting, to the extent of existing Agency authority, the river's free-flowing condition, water quality and ORVs. This alternative precludes construction of the proposed fish barrier in Blue River segment 4.

### **Alternative 2 – No Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Private landownership and uses in Blue River segment 1 would be unaffected by continued management of NFS lands under the direction of the ASNFs forest plan. The private lands would continue to be regulated through Greenlee County zoning and as rural RU-36 (one dwelling unit per 36 acres). This low level of permissible rural development, current conditions and trends in Greenlee County, and present landowner stewardship as evident in collaborative planning efforts are likely to protect river and riparian values into the foreseeable future.

NFS lands in Blue River and KP Creek would be managed by the direction in the ASNFs' forest plan. The requirement to protect as a potential wild and scenic river would be discontinued, increasing the likelihood of some limited development that might not protect the river's free-flowing condition, water quality, or ORVs in the same manner as inclusion into the National system. This alternative allows construction of the proposed fish barrier in Blue River segment 4 (pending approval with appropriate environmental analysis).

### **Alternative 3 – Some Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Private landownership and uses in Blue River segment 1 would be unaffected by designation of Blue River segments 2, 3 and the majority of 4, and KP Creek. The private lands would continue to be regulated through Greenlee County zoning and as rural RU-36 (one dwelling unit per 36 acres). This low level of permissible rural development, current conditions and trends in Greenlee County, and present landowner stewardship as evident in collaborative planning efforts are likely to protect river and riparian values into the foreseeable future.

NFS lands in Blue River segments 2, 3 and the majority of 4, and KP Creek would be managed by the direction developed through the CRMP. This direction would protect the river's free-flowing condition, water quality, and ORVs. The portion of Blue River segment 4 that contains the proposed fish barrier is not recommended for designation so this alternative allows for its construction (pending approval with appropriate environmental analysis).

### **Alternative 4 – All Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Private landownership and uses in Blue River segment 1 would be unaffected by designation of Blue River and KP Creek. The private lands would continue to be regulated through Greenlee County zoning and as rural RU-36 (one dwelling unit per 36 acres). This low level of permissible rural development, current conditions and trends in Greenlee County, and present landowner stewardship as evident in collaborative planning efforts are likely to protect river and riparian values into the foreseeable future. Proposed water resources projects associated with these private lands would be subject to the additional review required by Section 7(a) of the act. Such projects that are judged to harm the river's free-flowing condition, water quality, or ORVs would prevent continued Federal assistance or permitting.

NFS lands in Blue River and KP Creek would be managed by the direction developed through the CRMP. This direction would protect the river's free-flowing condition, water quality, and ORVs. Development of the CRMP provides the opportunity to integrate local objectives and capitalize on the current collaborative planning. This alternative precludes construction of the proposed fish barrier in Blue River segment 4.

### **Special Use Permits**

#### **Effects Common to All Alternatives**

This section discusses authorization of uses of NFS land through a special use permit. Existing special use permits are unaffected by any alternative. The remainder of this section focuses on future application for such a permit, which requires an analysis and decision by the responsible official.

### **Alternative 1 – No Action (Defer Suitability Determination)**

#### **Direct, Indirect, and Cumulative Effects**

Issuance of special use permits would be guided by direction in the ASNFs forest plan and consistent with Agency policy to protect the free-flowing condition, water quality, and ORVs of Blue River and KP Creek. This interim policy states in part:

**Wild, scenic, and recreational rivers** – New transmission lines such as gas lines, water lines, and so forth are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, the project shall be evaluated as to its effect on the river’s outstandingly remarkable values and classification. Any portion of a utility proposal that has the potential to affect the river’s free-flowing condition shall be evaluated as a water resources project.

## **Alternative 2 – No Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Issuance of special use permits would be guided by direction in the ASNFs’ forest plan and all current law, regulation, and policy guiding the authorization of special uses on NFS lands.

## **Alternative 3 – Some Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Issuance of special use permits would be guided by direction in the ASNFs forest plan and all current law, regulation, and policy guiding the authorization of special uses on NFS lands. In addition, designation of Blue River segments 2, 3 and the majority of 4, and KP Creek would also require protection of their free-flowing condition, water quality, and ORVs. The act allows granting an easement or right-of-way within the boundary of a WSR, subject to conditions to protect these values (Section 13(g)).

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Issuance of special use permits would be guided by direction in the ASNFs forest plan and all current law, regulation, and policy guiding the authorization of special uses on NFS lands. In addition, designation of Blue River and KP Creek would also require protection of their free-flowing condition, water quality and ORVs. The act allows granting an easement or right-of-way within the boundary of a WSR, subject to conditions to protect these values (Section 13(g)).

## **Access and Infrastructure**

### **Alternative 1 – No Action (Defer Suitability Determination)**

#### **Direct, Indirect, and Cumulative Effects**

Road and trail construction or reconstruction, area closures, or changes in vehicle types or seasons of use on NFS land would continue to be guided by direction in the ASNFs forest plan and consistent with Agency policy to protect the free-flowing condition, water quality, and ORVs of Blue River and KP Creek. This interim policy states in part:

**Wild rivers** – motorized travel on land or water may be permitted but is generally a noncompatible use. New roads are not generally compatible with this classification. A few existing roads leading to the boundary of the river corridor may be acceptable. New trail construction should generally be designed for nonmotorized uses. However, limited motorized uses that are compatible with

identified values and unobtrusive trail bridges may be allowed. New airfields may not be developed.

**Scenic rivers** – motorized travel on land or water may be permitted, prohibited, or restricted to protect the river’s values. This would be determined through river management planning and through project-level environmental analysis. New roads are permitted to parallel the river for short segments or bridge the river if such construction fully protects river values (including the river’s free-flowing condition). Bridge crossings and river access are allowed. New trail construction or airfields must be compatible with and fully protect identified values.

**Recreational rivers** – Motorized travel on land or water may be permitted, prohibited, or restricted to protect the river’s values. This would be determined through river management planning and through project-level environmental analysis. New roads are permitted to parallel the river if such construction fully protects river values (including the river’s free-flowing condition). Bridge crossings and river access are allowed. New trail construction or airfields must be compatible with and fully protect identified values.

## **Alternative 2 – No Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Road and trail construction or reconstruction, area closures, or changes in vehicle types or seasons of use on NFS land would continue to be guided by direction in the ASNFs forest plan.

## **Alternative 3 – Some Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Road and trail construction or reconstruction, area closures, or changes in vehicle types or seasons of use on NFS land would continue to be guided by direction in the ASNFs forest plan. In addition, designation of Blue River segments 2, 3 and the majority of 4, and KP Creek would also require protection of their free-flowing condition, water quality, and ORVs. Future proposals for access and infrastructure on NFS lands must also be consistent with classification. Blue River segment 2 and the recommended portion of 4, and KP Creek are classified as wild and, therefore, allow the most limited range of future access and infrastructure, consistent with their essentially primitive in-corridor development.

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Road and trail construction or reconstruction, area closures, or changes in vehicle types or seasons of use on NFS land would continue to be guided by direction in the ASNFs forest plan. In addition, designation of Blue River and KP Creek would also require protection of their free-flowing condition, water quality, and ORVs. Future proposals for access and infrastructure on NFS lands must also be consistent with classification. Blue River segments 2 and 4 and KP Creek are classified as wild and, therefore, allow the most limited range of future access and infrastructure, consistent with their essentially primitive in-corridor development.

## **Range**

### **Effects Common to all Alternatives**

Livestock grazing on private lands is unaffected by any alternative.

### **Alternative 1 – No Action (Defer Suitability Determination)**

#### **Direct, Indirect, and Cumulative Effects**

There is currently no livestock grazing permitted on Federal lands in the Blue River or KP Creek corridors based on previous cooperative agreements with grazing permit holders and past environmental decisions. Continuing to provide interim management to protect as a potential wild and scenic river would not, therefore, affect this livestock grazing regime or the ability to protect the riparian habitat for threatened and endangered species.

### **Alternative 2 – No Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

There is currently no livestock grazing permitted on Federal lands in the Blue River or KP Creek corridors based on previous cooperative agreements with grazing permit holders and past environmental decisions. Discontinuing interim management to protect as a potential wild and scenic river would not, therefore, affect this livestock grazing regime or the ability to protect the riparian habitat for threatened and endangered species.

### **Alternative 3 – Some Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

There is currently no livestock grazing permitted on Federal lands in the Blue River or KP Creek corridors based on previous cooperative agreements with grazing permit holders and past environmental decisions. Discontinuing interim management on unsuitable segments would not affect this livestock grazing regime or the ability to protect the riparian habitat for threatened and endangered species.

Designation (of suitable segments) does not preclude livestock grazing on Federal lands so long as such activity is conducted in a manner that protects river values. The current grazing regime, designed to protect riparian habitat for threatened and endangered species, is entirely consistent with wild and scenic river designation.

### **Alternative 4 – All Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Designation does not preclude livestock grazing on Federal lands so long as such activity is conducted in a manner that protects river values. The current grazing regime, designed to protect riparian habitat for threatened and endangered species, is entirely consistent with wild and scenic river designation.

Protection of river values would occur through cooperation with landowners and local government in development of the comprehensive river management planning processes to determine the most effective ways to protect river values.

## Minerals

No ground-disturbing actions are proposed under any alternative, so the effects analysis is limited to the level and type of mineral activity allowed in the analysis area depending on whether different segments are found to be suitable or unsuitable for designation under the act. Forest plan standards and guidelines that specifically apply to mineral activity include the following:

*No streambed alteration or removal of material is allowed if it significantly affects riparian-dependent resources, channel morphology, or streambank stability (page 90).*

*In sensitive resource areas, protect the resource by vigorous investigation of mineral rights. This includes titles searches, BLM record searches, and zone geologist involvement (page 90).*

There would be no cumulative effects from minerals activities as a result of implementation of any of the alternatives.

The U.S. Department of Interior BLM's Reporting Application Pub MC Geo Index (LR2000 Public Reports) was searched for the identified townships, sections, and ranges. Active and closed mining claims were identified through this official USDI BLM database. A summary of the common/salable mineral contracts or over-the-counter sales for Fiscal Year 2009 on the Apache-Sitgreaves NFs was also obtained.

The townships, ranges, and sections queried included areas inside and outside of the ¼ mile boundary but within the Blue River watershed, which also includes KP Creek. The result for locatable mineral claims was that there are no active mining claims in the queried area. All previously filed claims have been closed (table 27).

**Table 27. Locations queried and number of claims identified with the status**

Township and Range	Section	Number of Claims	First Date of Mineral Lode Claim Location	Date of Mineral Lode Claim Closure
T1N/R30E	25	17	1977	1981
T2S/R30E	25	10	1970	1987
T2N/R30E	01	2	1983	1985
T1S/R31E	05 **	240	1974	1990 or 1991
T1S/R31E	06	24	1974	1990 or 1991
T1S/R31E	08 **	400	1974	1990 or 1991
T1S/R31E	17 **	320	1974	1990 or 1991
T1S/R31E	19 **	32	1974	1990
T1S/R31E	20 **	160	1974	1990

\*\* Denotes sections that include the mainstem Blue River. No claims were located on or near KP Creek.

In the Blue Range Primitive Area prospecting, locating, and developing mineral resources may occur (36 CFR 293.17(a)). Those activities are to be managed to minimize the effect on the areas (sic) wilderness character. Closed claims were located within the Blue Range Primitive Area (sections 5, 6, and a small portion of 8 in T1S/R31E). Some of the closed claims may have been located in the eligible wild and scenic corridor classified “wild” in the 2009 eligibility report (appendix B).

Any of the closed claims located in a large portion of section 8, plus all of sections 17, 19, and 20 are within an IRA. Some of those claims may also have been located in the eligible wild and scenic corridor classified “wild” in the 2009 eligibility report (appendix B). No closed or active claims identified in the BLM database were located in the sections of land that include the eligible corridor of segment 3, which is classified as “scenic,” or in segment 4, which is classified as “wild.”

**Table 28. Classified river segments with other significant land designations and level of locatable mineral activity**

<b>Eligible Segment</b>	<b>Miles</b>	<b>Classification</b>	<b>Other Designation (acres)</b>	<b>Level of Past or Present Locatable Mineral Development</b>	<b>Salable Mineral Activity</b>
Blue River Segment 1	25.1 miles	Recreational	MA1-570 MA2-1952 MA3-764 MA8-3891	No claims located in segment 1.	None
Blue River Segment 2	16.0 miles	Wild	MA8-3922 MA18-1033	Over 1,000 closed claims in the sections which the river flows through, but not all claims were in the eligible corridor.	None
Blue River Segment 3	4.2 miles	Scenic	MA2-69 MA18-1203	No claims in this corridor.	None
Blue River Segment 4	8.1 miles	Wild	MA2-1179 MA3-1024 MA18-135	No claims in this corridor.	None
KP Creek	11.3 miles	Wild	MA1-1092 MA4-113 MA8-2378	No claims in this corridor.	None

**Alternative 1 – No Action (Defer Suitability Determination)**

Under alternative 1, suitability findings would be deferred and current management would continue. All segments of Blue River and KP Creek would continue to be managed for inclusion into the National system and eligibility is maintained. The goal of this alternative is to continue current management of the ORVs under existing authorities. Rivers being studied under Section 5(d)(1) of the Wild and Scenic Rivers Act are not withdrawn from the mining or mineral leasing laws.

### **Direct, Indirect, and Cumulative Effects**

Under the no action alternative, mineral development could occur, although at this time there are no active claims for locatable minerals or permits for removal of salable mineral materials (except localized use of gravel outside of the active channel for road maintenance). There is no mineral leasing activity in the upper or lower Blue River 5th field hydrologic units (watersheds). Lands would continue to be available for mineral development and mining claims, subject to existing forest plan standards and guidelines, including in the Blue Range Primitive Area. No active or closed claims are located on National Forest System lands near KP Creek.

### **Alternative 2 – No Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Under this alternative, a determination would be made that all segments are not suitable and they would be released from wild and scenic river interim protection. Protection of river values would continue to be managed by the standards provided in the forest plan. The current forest plan was signed in 1987 and amended 14 times, with the last amendment in 2009. There are no existing active locatable mineral claims, and there is no mineral leasing activity on National Forest System lands. However, future development of mining claims and mineral leases could occur. Choosing this alternative would not initiate any changes to mineral development.

### **Alternative 3 – Some Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Under this alternative, those segments and portion of segments recommended as suitable for wild and scenic designation would continue to receive interim protection, as protective management for eligible river areas determined suitable are subject to existing laws and Agency guidance until Congress acts. Lands would be available for mineral development, and mining claims and leases would continue to be handled under current policy and regulations.

If segments are congressionally designated, a comprehensive river management plan (CRMP) would be developed within 3 years and the 34.6 miles of segment classified as “wild” would be withdrawn, effectively preventing future mineral resource development subject to valid existing rights (of which none are documented by USDI BLM) on NFS lands. Valid existing rights would have to be proved prior to approval of any mining plan that would conflict with the purposes of the withdrawal. Any mining claim with valid existing rights that might eventually be perfected would result in patent only to the mineral deposit along with such rights to the use of the surface and surface resources as are reasonably required for mining. Holders of valid mineral leases (of which none are documented or known for the project area) retain the rights granted by the terms and conditions of the specific leases. Mineral leases are subject to regulations issued by the Secretary of the Interior to protect water quality and scenic values (43 CFR 3809).

If designated, on miles classified as “scenic” (4.2 miles), mineral development would be managed according to the language in the Wild and Scenic Rivers Act. New mining claims can be located and new mineral leases can be issued but both are subject to reasonable access and regulations that minimize effects to surface resources. The 25.1 miles of “recreational” segment 1 and the 0.76 mile of “wild” segment 4 determined not suitable for wild and scenic designation would be released from wild and scenic river interim protection and effects on mining as discussed in alternative 2 would apply.

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

All four segments plus KP Creek (64.7 miles) recommended for wild and scenic designation would continue to receive interim protection, the effects of which are explained in alternative 1 analysis. Lands would continue to be available for mineral development, including the Blue Range Primitive Area, and mining claims and leases (none of which currently exist) on National Forest System lands would be handled under current policy and regulations. Rivers being studied under Section 5(d)(1) of the act are not withdrawn from the mining or mineral leasing laws.

Protective management requirements for eligible river areas determined suitable are subject to existing laws and Agency guidance until Congress acts. If the segments are congressionally designated, a comprehensive river management plan would be developed within 3 years of designation and 35.4 miles of segments with “wild” classifications would be withdrawn. Segments would be managed to protect their ORVs possibly limiting operations of any existing mineral claims, subject to valid existing rights.

Affects of withdrawal on mineral development is the same as described in alternative 3, with the addition of 0.76 mile of “wild” segment 4, if this segment of the Blue River was designated.

## **Fire Management**

### **Alternative 1 – No Action (Defer Suitability Determination)**

#### **Direct, Indirect, and Cumulative Effects**

Fire management activities would be guided by direction in the ASNFs forest plan and would be consistent with Agency policy to protect the free-flowing condition, water quality and ORVs of Blue River and KP Creek. This interim policy states in part:

**Wild rivers** - prescribed fire and fire for resource benefits may be used to restore or maintain habitat for threatened, endangered, or sensitive species and/or restore the historic range of variability.

**Scenic or recreational rivers** - fire management activities may be authorized to protect or enhance river values.

### **Alternative 2 – No Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Fire management activities would be guided by direction in the ASNFs forest plan. Prescribed fire and thinning may continue to be used to restore ecosystems.

### **Alternative 3 – Some Segments Suitable and Recommended**

#### **Direct, Indirect, and Cumulative Effects**

Fire management activities would be guided by direction in the ASNFs forest plan. In addition, designation of Blue River and KP Creek would also require protection of their free-flowing condition, water quality, and ORVs. Future proposals for prescribed fire and thinning on NFS lands must also be consistent with classification. Blue River segment 2 and the recommended portion of 4 and KP Creek are classified as wild and, therefore, allow the most limited range of

future access and infrastructure, consistent with their essentially primitive in-corridor development.

## **Alternative 4 – All Segments Suitable and Recommended**

### **Direct, Indirect, and Cumulative Effects**

Fire management activities would be guided by direction in the ASNFs forest plan. In addition, designation of Blue River and KP Creek would also require protection of their free-flowing condition, water quality, and ORVs. Future proposals for prescribed fire and thinning on NFS lands must also be consistent with classification. Blue River segments 2 and 4 and KP Creek are classified as wild and, therefore, allow the most limited range of future access, consistent with their essentially primitive in-corridor development.

## **Social and Economic Conditions**

### **Methodology and Assumptions**

Economic effects are presented as a general and qualitative discussion of the following issues associated with the concerns identified during scoping (see chapter 1):

1. **Potential economic impacts** (e.g., impacts to jobs and income) to the Blue community and surrounding area as a result of potential changes in resource access, outputs, and/or services, including grazing/livestock operations, timber harvest, water use, and recreational guides/outfitters/facility opportunities.

*Consideration and Assumptions:* For background and assumptions about resource outputs and services associated with Federal and private lands within the river corridors, see other resource specific sections in this chapter.

2. **Potential indirect effects to property values** as a result of changes in rights to use or access adjacent public lands and resources, as well as changes in natural amenities and conditions.

*Considerations and Assumptions:* Existing water rights and diversions are not expected to be affected as a direct result of any of the alternatives. Under the act, designation neither gives nor implies government control of private lands within the river corridor. Development of the CRMP provides the opportunity to integrate local objectives and capitalize on the current collaborative planning.

Purchases, exchanges, or acquisition of easements on private land are not currently projected under any of the alternatives. None of the alternatives preclude such consideration from willing sellers.

Existing private land uses are protected through local zoning, and property values are unlikely to be affected by designation. Protection of ORVs on Federal lands, including attributes such as scenery associated with primitive settings and wilderness, may contribute to the value of year-round or second-home property within or in the vicinity of the designated river corridor in segment 1. There are very few studies which have examined the effects of designation on land values.

3. **Potential for other social effects** (e.g., potential losses in revenue sharing payments to state and counties (Payment In Lieu of Taxes (PILT), Secure Rural Schools and Community Self-Determination Act (SRSA) funding, transportation/access, safety (fire), and visitor effects (e.g., trespass)).

*Considerations and Assumptions:* According to urban interface treatment needs described in the “Greenlee County Community Wildfire Protection Plan” (Greenlee County, 2005), prescribed burning and limited thinning treatments are planned within segment 1 associated with private land along the canyon bottom. The “recreational” classification of segment 1 would not preclude activities within the river corridor necessary to implement fuels reduction treatments consistent with the Greenlee County CWPP. The CWPP also acknowledges the presence of Blue Range Primitive Area in other segments and that treatment options are limited in these areas.

Payments to the State and counties (i.e., PILT and SRSA payments) are not expected to be affected by designations.

Relative to questions about the effect of designation on the number of recreational visitors to the Blue River and KP Creek corridors, Keith et al. (2008) found no conclusive evidence to support a consistent link between designation and recreational participation rates. This conclusion was due, in part, to the fact that there are no good before and after examinations of designation effects. It should also be noted that changes in visitation rates would be constrained if ORVs are threatened from visitor overuse for a designated segment; the CRMP may adopt necessary constraints through permit programs or other mechanisms.

Benefits associated with most river values (free-flowing condition, water quality and ORVs can be characterized as being non-market or non-use benefits (e.g., wildlife habitat, geologic features, bequest values, existence values) which are difficult to monetize or quantify beyond the indicators already summarized in other specialist reports prepared for this suitability analysis.

The potential costs of developing the CRMP and administering designations are also projected for each alternative. There are three cost categories associated with designation: (1) administration and operation (annual river related costs), (2) river planning (i.e., CRMP development), and (3) land acquisition (see appendix G for details). Purchases, exchanges, or acquisitions of easements on private land are not currently projected under any of the alternatives. Consequently, costs to the Forest Service are currently assumed to be zero for land acquisitions.

No cumulative effects specific to economic or social conditions are identified for any alternatives; cumulative effects associated with past, present, or reasonably foreseeable actions are indirectly addressed through incorporation of assumptions about resource-specific effects from other specialist analyses and assessments.

### **Alternative 1 – No Action (Defer Suitability Determination)**

**Potential for Economic Impacts:** Livestock grazing is not currently permitted on Federal lands within the Blue River or KP Creek corridors based on previous cooperative agreements with grazing permit holders and past environmental decisions. Livestock grazing on private land in Blue River segment 1 is unaffected. Continuation of interim management to protect Federal lands as a potential wild and scenic river is unlikely to affect timber or minerals management, or

recreation opportunities and corresponding jobs in the local community associated with guiding, outfitting, and/or campgrounds. There are no water supply or flood control projects anticipated on Federal lands of any segment. Small-scale water resources projects likely to be constructed on private lands are unaffected. Road improvements on private lands are unaffected.

**Potential for Property Value Impacts:** No direct or indirect effects to private land use or ownership are projected for any of the alternatives. In the future, private lands are likely to remain at a low level of development, based on current conditions and trends. Existing water rights are unaffected. Forest Service policy is to protect the river’s free-flowing condition, water quality and ORVs on Federal lands to maintain their eligibility also protecting natural amenities that contribute to quality of life and recreation for seasonal and year-round residents.

**Potential for Other Social Effects:** PILT and SRSA payments to Greenlee County are not affected. No change in the number of visitors is anticipated. Road development and access necessary on Federal lands within the corridor to implement fuels reduction treatments is consistent with the “Greenlee County Community Wildfire Protection Plan,” thus insuring opportunities to protect the local community against the risk of wildfire is not precluded.

**Overall Direct/Indirect Effects:** NEGLIGIBLE. The potential for economic impacts associated with changes in jobs and income related to the use of goods and services derived from NFS land (as well as private lands) are expected to be negligible. No significant changes in land and water use opportunities or local/natural amenities (including scenery, recreational opportunities, transportation, and safety) are projected, implying negligible impacts to property values. Social effects derived from conditions related to safety, access, transportation, payments to the county, and visitor numbers are not expected to change.

**Costs:** CRMP cost = \$0 Administration cost = \$0

Future costs are possible if designation occurs. Acquisitions of private land and/or land exchanges with willing sellers would continue to be an option for the Forest Service as a means of protecting resource values, depending on funding and interest expressed by willing private landowners.

## **Alternative 2 – No Segments Suitable and Recommended**

**Potential for Economic Impacts:** Changes in the flow of goods and services that contribute to jobs and income are expected to be similar to alternative 1. There is greater flexibility to propose or support water resources projects and some other projects such as road construction or improvements on Federal lands. However, such projects are constrained by underlying management area direction, including the Blue Range Primitive Area and the presence of inventoried roadless areas. It is unlikely that future activities on Federal lands might degrade recreational opportunities and, therefore, affect any jobs reliant on these opportunities.

**Potential for Property Value Impacts:** No direct or indirect effects to private land use or ownership are projected for any of the alternatives. In the future, private lands are likely to remain at a low level of development, based on current conditions and trends. Existing water rights are unaffected. River related values would continue to receive protection on Federal lands as dictated by existing authorities, recognizing those authorities (e.g., forest plan) can change over time.

**Potential for Other Social Effects:** Conditions related to safety, access, transportation, payments to the county, and visitor numbers are expected to be similar to alternative 1.

**Overall Direct/Indirect Effects:** NEGLIGIBLE. There is little evidence to suggest that changes in goods and services associated with the use of NFS land (as well as private lands) would be significant or have an impact on jobs and income. No significant changes in land and water use opportunities or local/natural amenities (including scenery, recreational opportunities, transportation, and safety) are projected, implying negligible impacts to property values. Social effects derived from conditions related to safety, access, transportation, payments to the county, and visitor numbers are not expected to change.

**Costs:** CRMP cost = Not applicable Administration cost = Not applicable

Even without designations, private land and/or land exchanges/acquisitions with willing sellers would continue to be an option for the Forest Service as a means of protecting resource values, depending on funding and willing interest expressed by private landowners.

### **Alternative 3 – Some Segments Suitable and Recommended**

**Potential for Economic Impacts:** Changes in the flow of goods and services that contribute to jobs and income are expected to be similar to alternative 1. Designation of Blue River suitable segments (2, 3 and the majority of 4) and KP Creek is unlikely to affect timber management or recreation opportunities and corresponding jobs in the local community associated with guiding, outfitting, and/or campgrounds. While there are no water supply or flood control projects anticipated on these segments, Section 7(a) of the act would provide for protection from the harmful effects of water resources projects.

Designation of Blue River segment 2 and the portion of segment 4 and KP Creek classified as “wild,” withdraws a one-quarter mile corridor on either side of the river from locatable or leasable mineral entry. However, neither corridor is valuable for mineral resources based on limited past activity and no existing claims or leases.

Future development in Blue River segments 2, 3 and the majority of 4 and KP Creek is anticipated to be minor. Designation would provide assurances about long-term protection of river values, including the existing recreational opportunities within these segments.

Exclusion of the lower 0.76 mile of Blue River segment 4 (out of a total of 8.1 miles for segment 4) is not expected to have a significant adverse impact on the canoeing/kayaking opportunities but is expected to help enhance native fish populations in the Blue River as well as corresponding recreational benefits. The recreational opportunity spectrum (ROS) for the upper portion of segment 1 is currently “roaded natural,” and significant change in this condition is not expected as a result of activities allowed in the absence of designation.

**Potential for Property Value Impacts:** Effects are expected to be similar to alternative 2, with the exception that greater long-term protection of river values in segments 2 and 3, the upper portion of segment 4, and KP Creek, combined with potential restoration of native fisheries helps protect natural amenities that contribute to quality of life and recreation for seasonal and year-round residents in the local area. Proposed water resources projects associated with private lands in Blue River segment 1 would continue to be guided by other existing Federal, State or local authorities, without the additional review required by Section 7(a) of the act.

**Potential for Other Social Effects:** There is no conclusive evidence to support a consistent link between designation and recreational participation rates. Adverse community effects from visitors

are expected to be negligible for the Blue/KP given remoteness, non-navigability of most segment miles, and the fact that visitation rates would be constrained if river values are threatened by excessive numbers of visitors (i.e., CRMPs can adopt permit programs and other mechanisms to control visitation).

**Overall Direct/Indirect Effects:** MINIMAL (uncertain potential for slight positive effects). Long-term protection of river values, combined with potential enhancements of native fish populations may contribute to recreational opportunities and corresponding jobs, which—given little evidence indicating adverse impacts to other job/resource sectors—may suggest a slight positive economic impact, though the magnitude of the impact would be difficult to measure. The potential for positive property value effects resulting from long-term protection of ORVs/fish populations and corresponding natural amenities and recreation is uncertain. Conditions related to safety, access, transportation, and payments to the county are expected to be similar to alternative 1. The effects of potential increases in visitors are expected to be minimal.

**Costs:** CRMP = \$175,000 spread over 3 years                      Administration = \$35,000 per year

No costs are attributed to acquisitions; however, depending on funding and willing interest expressed by private landowners, acquisitions of private land and/or land exchanges with willing sellers would continue to be an option for the Forest Service as a means of protecting resource values.

#### **Alternative 4 – All Segments Suitable and Recommended**

**Potential for Economic Impacts:** Potential changes in the flow of goods and services, and corresponding impacts to jobs and income are expected to be minimal, similar to alternative 3. Designation of Blue River and KP Creek is unlikely to affect timber management or recreation opportunities and corresponding jobs in the local community associated with guiding, outfitting, and/or campgrounds. While there are no water supply or flood control projects anticipated on these segments, Section 7(a) of the act would provide for protection from the harmful effects of water resources projects.

Designation of Blue River segment 2 and the portion of segment 4 and KP Creek classified as “wild,” withdraws a one-quarter mile corridor on either side of the river from locatable or leasable mineral entry. However, neither corridor is valuable for mineral resources based on limited past activity and no existing claims or leases.

Future development on Federal lands in the Blue River and KP Creek corridors is anticipated to be minor. Designation would provide assurances about long-term protection of river values, including the existing recreational opportunities within these segments.

The potential economic opportunities afforded by improvements to native fish populations in alternative 3 would not occur in alternative 4.

**Potential for Property Value Impacts:** Effects are expected to be similar to alternative 3, with the exception that greater long-term protection of river values, combined with potential restoration of native fisheries helps protect natural amenities that contribute to quality of life and recreation for seasonal and year-round residents in the local area. Proposed water resources projects associated with private lands in Blue River segment 1 would be subject to the additional review required by Section 7(a) of the act. Such projects that are judged to harm the river’s free-

flowing condition, water quality, or ORVs would prevent continued Federal assistance or permitting.

Development of the CRMP provides the opportunity to integrate local objectives and capitalize on the current collaborative planning. Should proposed uses or development on private land be a potential threat to river values, negotiated efforts would be pursued to ease the threat through local zoning, state provisions, or other measures (purchasing a partial right (easement) or property in fee title are last resorts). Scenic easement condemnation is rarely used; there are no known or foreseeable proposals which would necessitate acquiring easements through condemnation (the Agency has not purchased a scenic easement in the State of Arizona). Existing water rights (almost all of which are located within segment 1) are unaffected. Long-term protection of river values in all segments may be perceived as an improvement in natural amenities that contributes to quality of life and recreation for seasonal and year-round residents in the local area.

**Potential for Other Social Effects:** Designation of all segments has the potential to attract additional visitors, however, any potential increases in visitors are not expected to have an adverse effect on social/community conditions for the reasons outlined above for alternative 3. Payments or revenue sharing through Secure Rural Schools and PILT are not expected to change with the designations. The recreational classification of segment 1 does not preclude road development and access on Federal lands necessary to implement fuels reduction treatments consistent with the Greenlee County CWPP, thus insuring opportunities to protect the local community against the risk of wildfire.

**Overall Direct/Indirect Effects:** MINIMAL (uncertain potential for slight positive effects). Long-term protection of existing ORVs may contribute to recreational opportunities and corresponding jobs which, given little evidence indicating adverse impacts to other job/resource sectors, may suggest a slight positive economic impact, though the magnitude of the impact would be difficult to measure. No significant changes in land and water use opportunities associated with private property are expected. The offsetting effects of (1) potential perceptions about land use and development constraints (in segment 1) and (2) long-term protection of ORVs on property values is uncertain, but overall effects are expected to be minimal. Payments to the county are expected to remain unchanged. The effects of potential increases in visitors are expected to be minimal, and the “recreation” designation in segment 1 is compatible with the county’s community wildfire protection plan.

**Costs:** CRMP = \$250,000 spread over 3 years                      Administration = \$50,000 per year

No costs are attributed to acquisitions; however, depending on funding and willing interest expressed by private landowners, acquisitions of private land and/or land exchanges with willing sellers would continue to be an option for the Forest Service as a means of protecting resource values.

## Environmental Justice

Executive Order 12898 (February 11, 1994) directs Federal agencies to focus attention on the human health and environmental conditions in minority communities and low-income communities. The purpose of the executive order is to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

The Council on Environmental Quality (CEQ) provides the following definitions in order to provide guidance with the compliance of Environmental Justice requirements:

*“**Minority population:** Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis...”*

*“**Low-income population:** Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census.”*

*“**Current Population Reports, Series P-60 on Income and Poverty:** In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.”*

Based on results in the “Population, Housing, and Demographics” section, there is no evidence to suggest that the proposed action would have a disproportionate adverse effect on low-income populations, nor that minority populations for the local area would meet the Environmental Justice criterion for a minority population. Minority or low-income populations are, therefore, not expected to experience disproportionate adverse effects as a result of the designations being evaluated.

## **Civil Rights Impact Analysis**

The Civil Rights Policy for the USDA, Departmental Regulation 4300-4 dated May 30, 2003, states that the following are among the civil rights strategic goals: (1) managers, supervisors, and other employees are held accountable for ensuring that USDA customers are treated fairly and equitably, with dignity and respect; and (2) equal access is assured and equal treatment is provided in the delivery of USDA programs and services for all customers. This is the standard for service to all customers regardless of race, sex, national origin, age, or disabilities.

The wild and scenic river designation and designation suitability process does not discriminate against minorities, women, or persons with disabilities because designations and corresponding management applies equally to all groups. Designations and requirements do not prohibit or inhibit use on the basis of race, color, sex, national origin, religion, age, disability or marital or familial status.

## **Suitability Assessment**

### **Suitability Factor 1**

**Characteristics that do or do not make the area a worthy addition to the National system.**

**Historic and Prehistoric Values:** From a cultural resource viewpoint, these waterways have characteristics that make them a worthy addition to the National system. The density and variety

of sites present indicate a unique and significant archaeological value in this area. The best method for protecting these ORVs isn't necessarily a WSR designation, but a plan to survey areas that may contain archaeological sites, evaluate unevaluated sites, monitor for past, present and future effects, and develop a management plan in keeping with the forest plan. Forest Service Policy (FSM 2361.3) requires that projects with the potential to affect cultural resources, including lands which would leave Federal agency control through sale or exchange, be surveyed for cultural resources in order to comply with 36 CFR 800 – Protection of Historic Properties, Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. These requirements provide significant protection of cultural resources independent of inclusion in the National system.

**Fisheries Values:** The fish populations and habitats of segments 1 through 4 of the Blue River and the KP Creek segment do have characteristics that would make all of these segments worthy additions to the National system. Segments 1 through 4 of the Blue River contain populations of loach minnow, a threatened fish under the ESA. All four of these segments also contain loach minnow critical habitat. These segments also contain an assemblage of native desert fish that are Forest Service sensitive species. Recovering habitat, suitable for the reintroduction of native fish such as spikedace and razorback sucker, is present within the Blue River. KP Creek provides coldwater habitat for the potential reintroduction of Gila trout and currently contains the listed Apache trout, though this population is outside of its historic range.

These ORVs currently have protection from the ESA, direction in the forest plan, including regulations for the Blue Range Primitive Area, AZGFD, and conservation measures from the CAP biological opinion.

Designation of some or all of the segments as a WSR would add a layer of protection and conservation for the fisheries resource. Alternative 4 would prohibit construction of the currently proposed channel-spanning fish barrier between the Blue River and San Francisco River. This barrier would prevent the movement of nonnative fish from the San Francisco River into the Blue River and is important to future fisheries restoration projects in the Blue River. Excepting preventing construction of this barrier—in alternatives that recommend segment 4 of Blue River—designation should complement habitat restoration and reintroduction. It would also protect aquatic resources from the harmful effects of future water resources projects and provide additional protection from road building and timber harvest outside the Blue Range Primitive Area.

**Water Management:** The Blue River and KP Creek have characteristics that make them a worthy addition to the National system. Blue River is a mixture of forest and agriculture land along segment 1; most of segment 2 flows through the Blue Range Primitive Area; and most of segments 3 and 4 are also fairly isolated. Segment 1 has active water withdrawal and associated water rights. Due to a lack of water in the area, it is anticipated that there would be continued pressure on withdrawal of surface water from the Blue River. Past actions from the early 1900s have caused degradation to the Blue River from which the lower part of the Blue has not yet recovered. Additional water withdrawals would further slow recovery efforts.

In the short term, Blue River is protected by the Clean Water Act, direction in the forest plan, ESA fish and recovery plans, and other authorities as listed in appendix D. WSR designation may protect areas outside the primitive area from additional road building and quarries within the river corridors. Protection under the act would give Blue River an added layer of protection over

present management rules, especially for the long term, when management direction could change. Section 13(c) of the act expressly reserves the quantity of water necessary to protect river values. This Federal reserved water right is generally adjudicated in a state forum (e.g., state court or basin-wide adjudication). The designation does not supersede existing, valid water rights and establishes a priority date coincident with the river's date of designation into the National system.

KP Creek is an important recreational area and coldwater fishery with outstanding water quality that should have the added layer of protection afforded designated wild and scenic rivers.

**Wildlife Values:** The Blue River and KP Creek corridors are important to a diversity of wildlife resources including sensitive, threatened, and endangered wildlife species. In particular, these corridors play an important role for possible recovery of the threatened Mexican spotted owl due to the adjacency of critical habitat. These corridors provide valuable travel way habitat for the endangered Mexican gray wolf and jaguar, as well as nesting and foraging habitat for the endangered Southwestern willow flycatcher. In addition, there are several management indicator species that rely on the functionality of the river corridor system.

## **Suitability Factor 2**

### **The current status of landownership and use in the area.**

As detailed above in the "Landownership and Land Uses" section, all of the study segments are entirely Federal lands except Blue River segment 1, which encompasses 1,367 acres of private lands, or 17 percent of the segment acres. Uses on private lands within the corridor include agriculture, livestock grazing, homes, and a school. The Federal lands are managed by the Apache-Sitgreaves National Forests' plan, with uses and activities within the corridors consistent with management area direction.

## **Suitability Factor 3**

### **The reasonably foreseeable potential uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the National system.**

**Enhanced:** Designation would protect and enhance the river's free-flowing condition, water quality, and ORVs, including the generally primitive recreation experiences.

**Foreclosed or Curtailed:** Any federally assisted water resources project judged by the river administering agency to have an adverse effect to river values would be prohibited. This would include water supply dams, diversions, and the fish barrier construction proposed in Blue River segment 4.

Section 13(c) of the act expressly reserves the quantity of water necessary to protect river values. The designation does not supersede existing, valid water rights and establishes a priority date coincident with the river's date of designation into the National system. The quantity of water needed to protect river values might limit future water withdrawal.

**Private Lands:** Designation would have no direct effect on current or future uses on private lands.

#### **Suitability Factor 4**

**The Federal agency that would administer the area should it be added to the National system.**

The USDA Forest Service, Apache-Sitgreaves National Forests, would administer the area upon designation.

#### **Suitability Factor 5**

**The extent to which the Agency proposes that administration of the river, including the costs thereof, be shared by State and local agencies.**

The Forest Service is not proposing shared administration and costs with State and local agencies. However, collaborative efforts among agencies and citizens currently in place to protect and enhance river values would continue and be incorporated in the comprehensive river management plan developed after designation. Future proposed actions intended to implement the river management plan could be developed and funded cooperatively with State and local agencies.

The estimated administrative and planning costs to the agency are noted in the “Social and Economic Conditions” section, “Summary of Direct and Indirect Effects.”

#### **Suitability Factor 6**

**The estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area should it be added to the National system.**

There are no plans or intent to acquire lands or interests in land within the study corridors at this time.

#### **Suitability Factors 7, 8, and 9**

**A determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the National system.**

**An evaluation of the adequacy of local zoning and other land use controls in protecting the river’s outstandingly remarkable values by preventing incompatible development.**

**The State/local government’s ability to manage and protect the outstandingly remarkable values on non-Federal lands. This factor requires an evaluation of the river protection mechanisms available through the authority of State and local governments. Such mechanisms may include, for example, statewide programs related to population growth management, vegetation management, water quantity or quality, or protection of river related values such as open space and historic areas.**

The Greenlee County Planning Department and the State of Arizona are the regulatory authorities for all land use and development activities which occur on private property within the unincorporated areas of the county. Landowners must acquire permits to construct developments on their land (Greenlee County, 2007a). Designation confers no regulatory control. Development on private lands in segment 1 would need to be consistent with the rural (RU) zoning ordinances

(Greenlee County, 2007a). Private land uses such as limited livestock grazing, irrigation, and operation of a small school may continue and are unaffected by designation. The 2007 “Floodplain Management Ordinance for Greenlee County” contains restrictions that help protect ORVs, free-flowing condition, and prevent incompatible development within the flood plain, such as restricting (within the flood plain) construction activities, dredging, filling, water diversion or flood control structures, or any alterations of the stream channel or flood plain (Greenlee County, 2007b). The “Greenlee County Comprehensive Management Plan” (Greenlee County, 2003, with 2005 updates) requires maintaining the 1-acre parcel minimum size limit for lands on septic and well systems. It also requires coordination with other agencies to protect natural resource values. It can be assumed by the vision and requirements in the comprehensive plan that the county would cooperate with the Forest Service as needed to protect river values and the recreational classification.

The “Greenlee County Comprehensive Management Plan” includes a permitting process for developments on private land, and indicates the county’s willingness to participate with adjacent land managers in protecting natural resource values.

The Arizona State Historic Preservation Office (SHPO), a division of Arizona State Parks, assists private citizens, private institutions, local governments, tribes, and State and Federal agencies in the identification, evaluation, protection, and enhancement of historic and archaeological properties that have significance for local communities, the State of Arizona, or the Nation. The role and function of the SHPO is defined in both State law (Arizona Historic Preservation Act) and Federal law (National Historic Preservation Act, as amended). Activities of the SHPO include:

- Statewide survey to identify and evaluate historic structures and archaeological sites;
- Nomination of eligible historic and archaeological properties to the National Register of Historic Places;
- Review of Federal and State actions that may affect historic and archaeological properties;
- Technical assistance to owners of historic properties;
- Technical assistance to certified local governments/local preservation commissions;
- Public education and awareness programs; and
- Assistance through matching grants and assistance to property owners seeking tax credits and incentives (<http://azstateparks.com/SHPO/index.html>).

Most of the lands surrounding the Blue River and KP Creek are managed by the Apache-Sitgreaves National Forests. All of the native fish species found in the Blue River and KP Creek are listed as Species of Greatest Conservation Need (Tier 1a or 1b) under the “Arizona Game and Fish Department’s State Wildlife Action Plan.” The state wildlife action plan is designed to be a collaborative wildlife conservation effort. The framework of the plan was built on coordination with private landowners, Federal agencies, tribes, State agencies, cities and towns to name a few. The purpose of the plan is to prevent listing of species and to keep “common species common.”

This plan outlines and prioritizes strategies for the conservation of these species and their habitat. Loach minnow is an ESA listed species and receives protection on non-Federal land.

State/local government management for wildlife resources is under the Arizona Game and Fish Commission. For terrestrial and riparian associated wildlife species, there are no other rules or regulations that would apply to species habitat or populations with the exception of Arizona Game and Fish hunting regulations for game species such as antelope, turkey, mule deer, elk and some furbearer species. None of these species are riparian dependent but all would utilize the river corridor at some time during its life cycle.

Water quality rules are managed by the Arizona Department of Environmental Quality, which is responsible for implementation of the Clean Water Act in the State. Arizona Department of Water Resources is responsible for ensuring a long-term water supply for the citizens and beneficial uses of the State.

### **Suitability Factor 10**

**Support or opposition to designation. Assessment of this factor would define the political context. The interest in designation or nondesignation by Federal agencies; State, local and tribal governments; national and local publics; and the State’s congressional delegation should be considered.**

The forest plan evaluated segments of several rivers as potential wild and scenic rivers. The record of decision recommended the main stem of the Black River be added to the National system and directed future study of the Blue River. In 1993, at the request of the Arizona congressional delegation, the Forest Service evaluated rivers on the national forests of Arizona for their potential inclusion into the National system. A series of meetings were held in cooperation with the BLM and NPS, with public comments for rivers flowing on the national forests summarized in “Public Meeting Report Summary, National Forests of Arizona” (December 1993).

The BLM used the statewide evaluation as a basis to conduct a statewide suitability study, completing a FEIS in 1994. In response to rivers studied on BLM administered lands, there was both support and opposition. They noted that, generally, citizen and local governments opposed recommending rivers for addition to the National system in Graham and Greenlee Counties (“Arizona Statewide Wild and Scenic Rivers Study Report/Record of Decision,” February 1997).

The “Public Involvement” section in chapter 1 summarizes the comments received during public scoping for this suitability study, and all comments and respondents are included in the project record. The comments encompass the full spectrum between support and opposition. Scoping respondents who supported potential designation cited protecting river values and those in opposition stated that the river is “already well managed.” On one hand, some question the Forest Service’s jurisdiction in the area entirely, claiming that the Forest Service has no legal right to manage the land, and existing laws such as the Wild and Scenic Rivers Act and Endangered Species Act do not apply, therefore, considering suitability for inclusion in the National system is illegal. On the other hand, comments by individuals and conservation groups, including several national and Arizona based conservation groups, recognize the unique and exemplary resources in the study area and support designation for all segments.

In general, it appears that many local residents with ties to the Blue River through personal history or landownership within or near the study corridor oppose designation. Concerns have been expressed about eligibility findings, the effects of designation on private lands and water

rights, property values, and the perceived threat of condemnation of private lands. They question the need for designation when the natural and cultural resources are adequately protected through existing authorities and collaboration.

### **Agencies**

**The Arizona State Game and Fish Department** supports the range of outstandingly remarkable values identified in the eligibility study. These segments of the Blue River and KP Creek possess outstandingly remarkable values including fish, wildlife, and recreation. Hunting, fishing, and watchable wildlife opportunities are key components of this recreational value, and that future management of these segments should allow for the continued use by the public for wildlife related recreational activities. They request coordination during the analysis to determine the potential impacts of suitability on the ability of the department to maintain and enhance the fisheries through electroshocking, nets, fish barriers, and chemical renovations.

**The USDI Bureau of Reclamation** requested consideration of the proposed fish barrier in Blue River segment 4.

**The Arizona Department of Environmental Quality** supports measures likely to improve water quality, including the suitability study and possible inclusion of Blue River and KP Creek in the National system.

### **Suitability Factor 11**

**The consistency of designation with other Agency plans, programs, or policies and in meeting regional objectives. Designation may help or impede the goals of tribal governments, or other Federal, State or local agencies. For example, designation of a river may contribute to State or regional protection objectives for fish and wildlife resources. Similarly, adding a river that includes a limited recreation activity or setting to the National system may help meet statewide recreation goals. Designation might, however, limit irrigation and/or flood control measures in a manner inconsistent with regional socioeconomic goals.**

**Historic and Prehistoric Values:** Archaeological site stewardship programs unite volunteers and archaeological sites to educate the public and preserve and protect cultural resources. The archaeological sites that become part of the program are usually at risk, require monitoring, need evaluation, or meet some other special circumstance. The volunteers learn a specialized task and help in the preservation of the site. Designation of Blue River may open the doors for such a program to flourish between participating State or Federal governments, landowners, and interested volunteers.

**Fisheries Values:** Three of the species currently and/or historically found within the eligible segments have ESA status and recovery plans. These recovery plans have goals that are mostly consistent with WSR designation. The recovery plan for loach minnow has a goal of protecting existing loach minnow populations with the specific steps of discouraging detrimental land and water uses, protecting perennial flows with a natural hydrograph, and examining the potential for construction of fish barriers (USDI Fish & Wildlife Service, 1991). The recovery plan for Gila trout includes restoring populations to historic Gila trout range (USDI Fish & Wildlife Service, 2003).

A biological opinion (BO) issued by the U.S. Fish and Wildlife Service for the Central Arizona Project (CAP) included construction of a fish barrier near the confluence of the Blue River with the San Francisco River as a conservation measure for the CAP (USDI Fish & Wildlife Service, 2008). The Bureau of Reclamation has proposed and is currently conducting NEPA analysis for a fish barrier approximately 0.5 mile upstream of the Blue River's confluence with the San Francisco River. This barrier would prevent the movement of fish upstream from the San Francisco River into the Blue River; the species assemblage of the San Francisco is composed of more nonnatives than the Blue River. Arizona's State Wildlife Action Plan (SWAP) includes plans for all of the native fish within the Blue River and KP Creek segment.

Designation of segment 4 of the Blue River would prevent the construction of the channel-spanning fish barrier currently being considered at this site. Construction of the fish barrier is mentioned in the loach minnow and Gila trout plans as a potential means of recovery.

**Wildlife Values:** The USFWS designation of critical habitat for the federally listed Mexican spotted owl is within and adjacent to the river corridor. Designation of the river corridors would be consistent and compliant with the 1995 recovery plan which cites alteration of its habitat as a threat to this species. Under the recovery plan, restricted areas include riparian environments because of the high value to this species. The recovery plan recommends broad guidelines for riparian systems which emphasize the maintenance and restoration of riparian areas. The loss of lower and middle level riparian habitat was cited in the final rule as a factor in habitat loss.

**Social and Economic Condition:** Designation is consistent with the Greenlee County plan, the "Greenlee County Community Wildfire Protection Plan," and the ASNFs' plan.

### **Suitability Factor 12**

**Contribution to the river system or basin integrity. This factor reflects the benefits of a "systems" approach, for example, expanding the designated portion of a river in the National system or developing a legislative proposal for an entire river system (headwaters to mouth) or watershed. Numerous benefits may result from managing an entire river or watershed, including the ability to design a holistic protection strategy in partnership with other agencies and the public.**

Blue River and KP Creek are part of the Upper Gila River basin which encompasses 12 rivers and additional tributaries determined eligible for inclusion in the National system. Designation of all segments of Blue River and KP Creek makes the greatest contribution to managing as a river system.

### **Suitability Factor 13**

**The potential for water resources development. The intent of the act is to preserve selected rivers from the harmful effects of water resources projects. Designation would limit development of water resources projects as diverse as irrigation and flood control measures, hydropower facilities, dredging, diversion, and channelization.**

Blue River is one of the larger river systems in this part of Arizona. It flows through the Blue Range Primitive Area and is relatively unroaded. While current management gives it a high degree of protection, there are always pressures for development of water resources projects. Inclusion into the National system prevents the harmful effects of water resources projects on

Blue River and KP Creek's free-flowing condition, water quality, and ORVs. There are no water supply or flood control projects anticipated in the foreseeable future on Blue River; however, some small-scale water resources projects may be constructed on private lands in this corridor. Those that require a Federal permit or assistance would also be subject to review by the river administering agency. There are no existing or foreseeable water resources projects on KP Creek.

Designation of the entirety of Blue River segment 4 would preclude construction of the channel-spanning fish barrier currently being considered at this site.



# Chapter 6 – List of Preparers

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during development of this environmental assessment.

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Tonto Apache Tribe  
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Yavapai-Prescott Tribe

# Glossary

This section provides a glossary of definitions of terms used in the EA.

**Allotment:** An area of land assigned to one or more livestock operators for grazing livestock.

**Alternatives:** Different ways of addressing the environmental issues and management activities considered in the environmental assessment. These serve to provide the decision maker and public a clear basis for choices among options.

**Aquatic habitat:** Habitat that is inundated by water with a frequency sufficient to support a prevalent form of aquatic life.

**Classification:** The process whereby designated rivers are classified as wild, scenic, and/or recreational according to criteria established in Section 2(b) of the Wild and Scenic Rivers Act.

**Coordinated or Concurrent Studies:** Wild and scenic river studies conducted by more than one agency or entity.

**Cultural resources:** Those fragile and nonrenewable remains of human activities, occupations, and endeavors as reflected in sites, buildings, structures, or objects. Cultural resources are commonly discussed as prehistoric or historic values.

**Designation:** The process whereby rivers are added to the National Wild and Scenic Rivers System by an act of Congress or by administrative action of the Secretary of the Interior with regard to state-designated rivers under Section 2(a)(ii) of the Wild and Scenic Rivers Act.

**Economic impact:** The change, positive or negative, in economic conditions that directly or indirectly result from an activity, project or program.

**Ecosystem:** A complex self-sustaining natural system which includes living and nonliving components of the environment and the circulation of matter and energy between organisms and their environment.

**Eligibility:** Qualification of a river for inclusion into the National Wild and Scenic Rivers System through the determination (professional judgment) that it is free flowing and, with its adjacent land area, possesses at least one river related value considered to be outstandingly remarkable.

**Endangered Species Act of 1973 (as amended):** Federal law to ensure that no Federal action would jeopardize federally listed or proposed threatened or endangered species of plants or animals.

**Ephemeral:** Streams or drainages that flow in direct response to precipitation for a short period of time. The precipitation events are primarily summer storms or sudden spring snowmelt. The duration of flow is typically a day to a week. Ephemeral streams do not usually support riparian vegetation.

**Existing right-of-way corridor:** A parcel of land with fixed limits or boundaries that is being used as the location for one or more rights-of-way.

**Free-flowing:** as applied to any river or section of a river, means existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures

at the time any river is proposed for inclusion in the National Wild and Scenic Rivers System shall not automatically bar its consideration for such inclusion: Provided, that this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the National Wild and Scenic Rivers System (WSR Act, Section 16(b)).

**Intermittent:** Streams that flow for a longer period of time than ephemeral streams. The duration of flow is typically several months and is usually in response to spring snowmelt. Intermittent streams typically do not have surface flows of water during the winter and summer. However, many intermittent streams have riparian vegetation supported by the surface flows and shallow ground water that is likely perennial.

**Leasable minerals:** Minerals such as coal, oil and gas, sodium, and all other minerals that may be acquired under the Mineral Leasing Act of 1920, as amended.

**Limits of Acceptable Change (LAC) System:** A framework for establishing acceptable and appropriate resource and social conditions in recreation settings. A system of management planning. Refer to United States Department of Agriculture Forest Service General Technical Report INT-176, January 1985, Intermountain Forest and Range Experiment Station, Ogden, Utah.

**Locatable minerals:** Any valuable mineral that is not salable or leasable, including gold, silver, copper, tungsten, uranium, etc.

**Mineral material disposals:** Disposal of sand, building and decorative stone, gravel, pumice, clay and other mineral materials and petrified wood through permit or contract for sale or fee.

**Mineral withdrawal:** Closure of land to mining laws, including sales, leasing, and location, subject to valid existing rights.

**Motorized travel:** Travel in any motorized vehicle for recreation purposes; includes driving or riding in off-highway areas.

**National Register of Historic Places:** A list of districts, sites, structures, and objects significant in American history and culture maintained by the Secretary of the Interior.

**National Wild and Scenic Rivers System:** Established by the Wilderness Act of 1968 to protect rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in free-flowing conditions.

**Nationwide Rivers Inventory (NRI):** A source list of rivers which have been tentatively determined by the National Park Service and other Federal land managing agencies as eligible for the National Wild and Scenic Rivers System.

**Outstandingly Remarkable Values:** Values among those listed in Section 1(b) of the Wild and Scenic Rivers Act: “scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values...” Other similar values which may be considered include ecological, biological, or botanical, paleontological, hydrological, scientific, or research values.

**Patent:** A government instrument (or deed) that conveys legal title for public land to an individual or another government entity.

**Perennial:** Streams that typically flow year-round. Perennial streams may have interrupted surface flow characterized by stream segments with flowing water or a series of pools between sections of dry to moist stream channel. Stream segments with interrupted flow are supported by perennial, shallow ground water. During drought, a perennial stream may go dry.

**Placer mining:** That form of mining in which the surface soil is washed for gold or other valuable minerals.

**Preferred alternative:** The alternative, in the environmental assessment, which management has initially selected as offering the most acceptable resolution for the issues and concerns.

**Public lands and related waters:** Lands, or interest in lands, administered by Federal agencies. Related waters are waters which lie directly over or adjacent to public lands and require some management control to protect federally administered resources, or to provide for enhanced visitor safety.

**Recreation Opportunity Spectrum (ROS):** A continuum used to characterize recreation opportunities in terms of setting, activity and experience opportunities. The spectrum covers a range of recreation opportunities from primitive to urban. With respect to river management planning, the ROS represents one possible method for delineating management units or zones.

**“Recreational” river areas:** Those rivers or sections of rivers which are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past (Wild and Scenic Rivers Act, Section 2(b)).

**Right-of-way:** The legal right for use, occupancy, or access across land or water areas for a specified purpose or purposes. Also the lands covered by such rights.

**Riparian habitat:** Areas of land directly influenced by permanent water and having visible characteristics, such as a vegetation type which reflects the presence of permanent surface or subsurface water.

**River:** a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes (WSR Act, Section 16(a)).

**River area:** For study rivers, that portion of a river (segment or corridor) and its immediate environment comprising a minimum area extending at least one-quarter mile from the ordinary high water mark. For designated rivers, the river and adjacent land within the authorized boundaries.

**River segment/corridor:** The portion of the river segment and corridor authorized either by Congress or an agency for study and its immediate environment comprising a minimum area extending at least one-quarter mile from each riverbank. For designated rivers, the river and adjacent land within the authorized boundaries.

**Salable minerals:** are minerals disposed of by permit and consist, for example, of common varieties of sand, stone, and gravel.

**“Scenic” river areas:** Those rivers, or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive, and shorelines largely undeveloped, but accessible in places by roads (Wild and Scenic Rivers Act, Section 2(b)).

**Scoping process:** An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

**Study corridor:** For study rivers, that portion of a river (segment or corridor) and its immediate environment comprising a minimum area extending at least one-quarter mile from the ordinary high water mark.

**Study report or suitability evaluation report:** The report on the eligibility and suitability of a study river for inclusion in the National Wild and Scenic Rivers System. Section 4(a) of the Wild and Scenic Rivers Act requires the Secretary of the Interior, or the Secretary of Agriculture—or both—to prepare and submit the report to the President. The President transmits the report with his recommendation(s) to Congress.

**Wetlands:** Lands including swamps, marshes, bogs, and similar areas such as wet meadows, spring areas, river overflow areas, mud flats, and natural ponds.

**Wild and Scenic Rivers Act:** National Wild and Scenic Rivers Act (“the act”) of 1968, as amended, Public Law 90-542 (16 U.S.C. 1271-87, et seq.).

**Wild and Scenic Study River:** Rivers identified in Section 5 of the Wild and Scenic Rivers Act for study as potential additions to the National Wild and Scenic Rivers System. The rivers shall be studied under the provisions of Section 4 of the Wild and Scenic Rivers Act.

**Wild, Scenic and/or Recreational:** The three classes of what is traditionally referred to as a “wild and scenic river.” Designated river segments are classified as wild, scenic and/or recreational, but the segments cannot overlap.

**“Wild” river areas:** Those rivers or sections of rivers, which are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive, and waters unpolluted. These represent vestiges of America (Wild and Scenic Rivers Act, Section 2(b)).

**Withdrawal:** The term “withdrawal” means withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of Federal land, other than “property” governed by the Federal Property and Administrative Services Act, as amended (40 U.S.C. 472) from one department, bureau or agency to another department, bureau or agency (Federal Land Management Policy Act (as amended), 1976).

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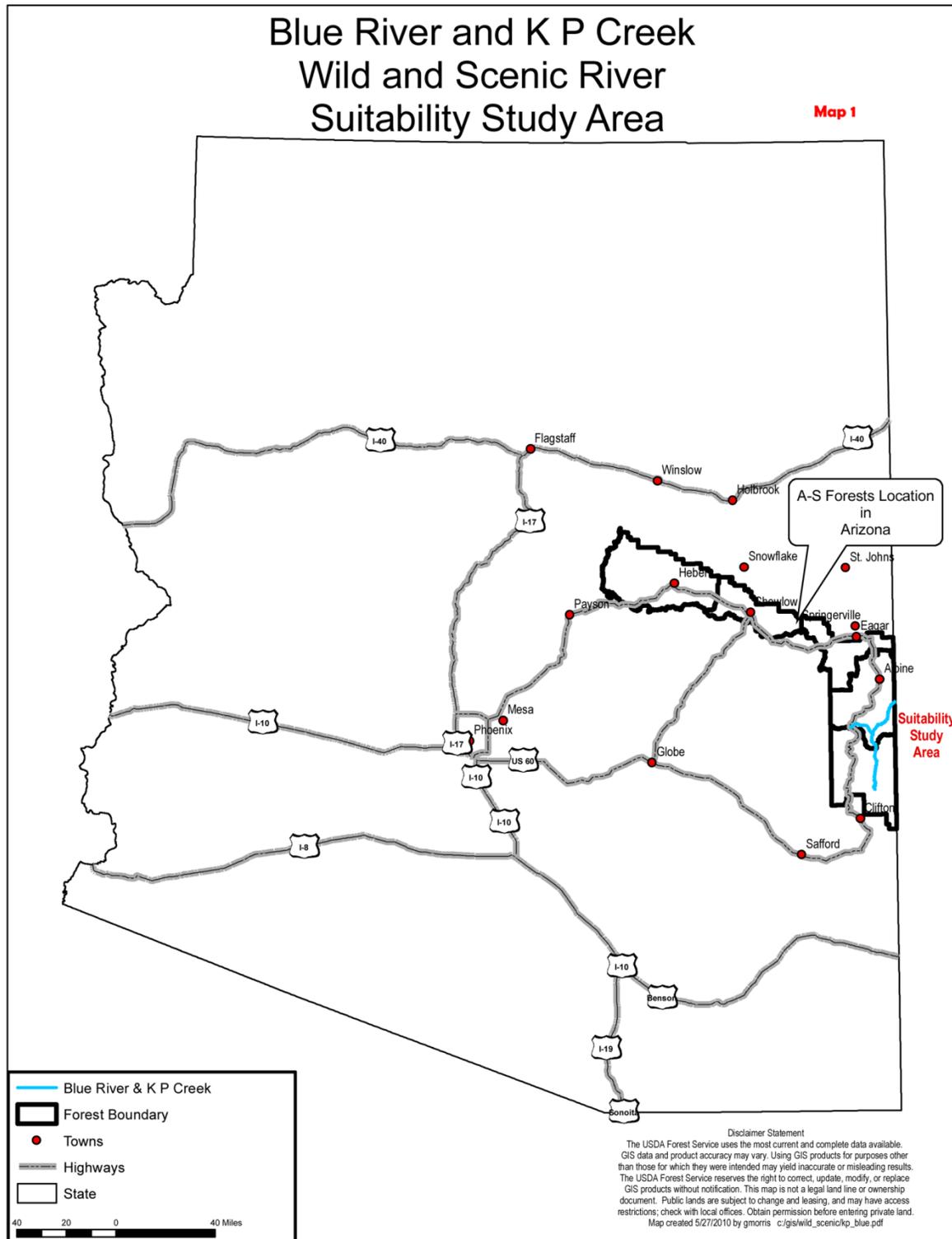
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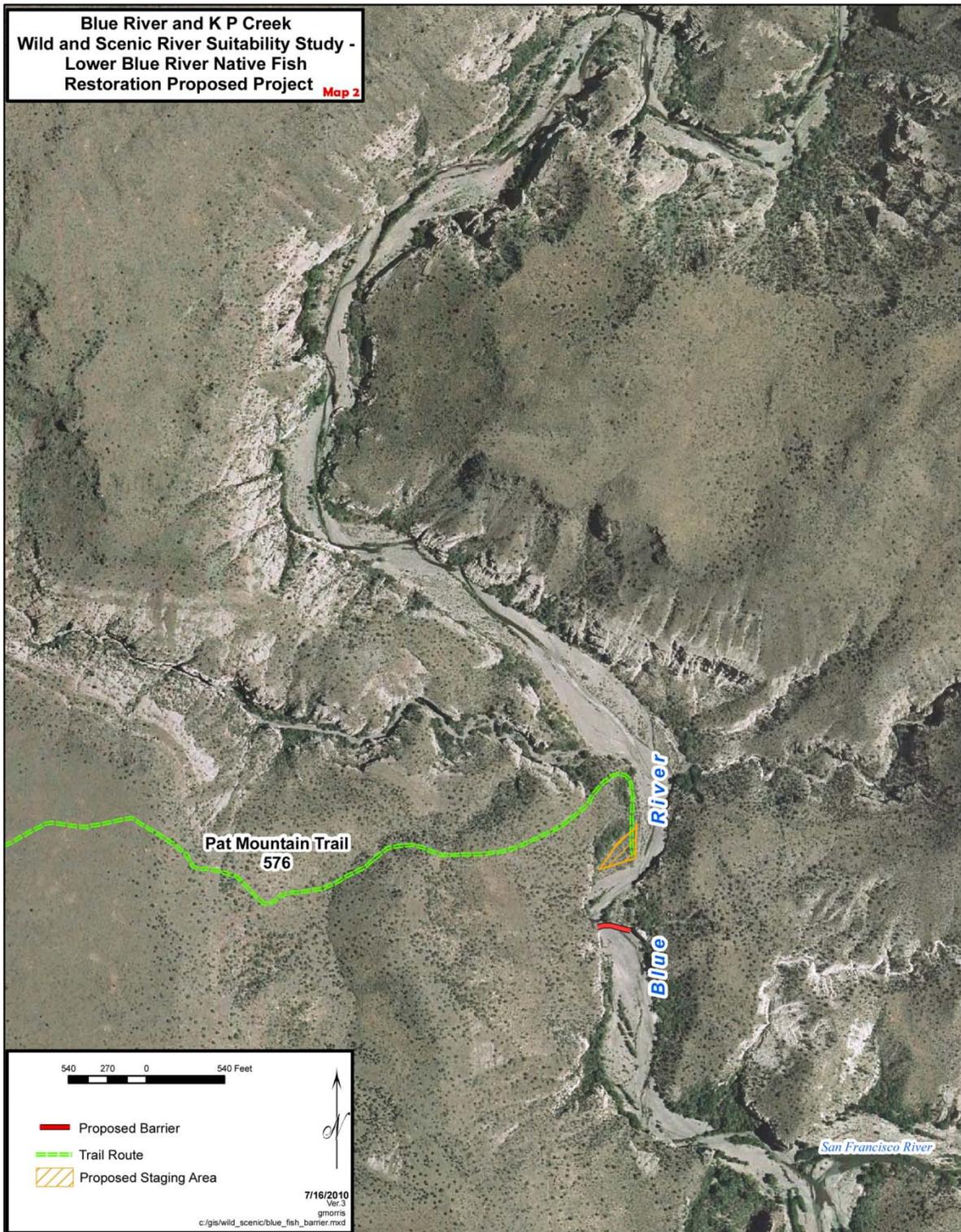
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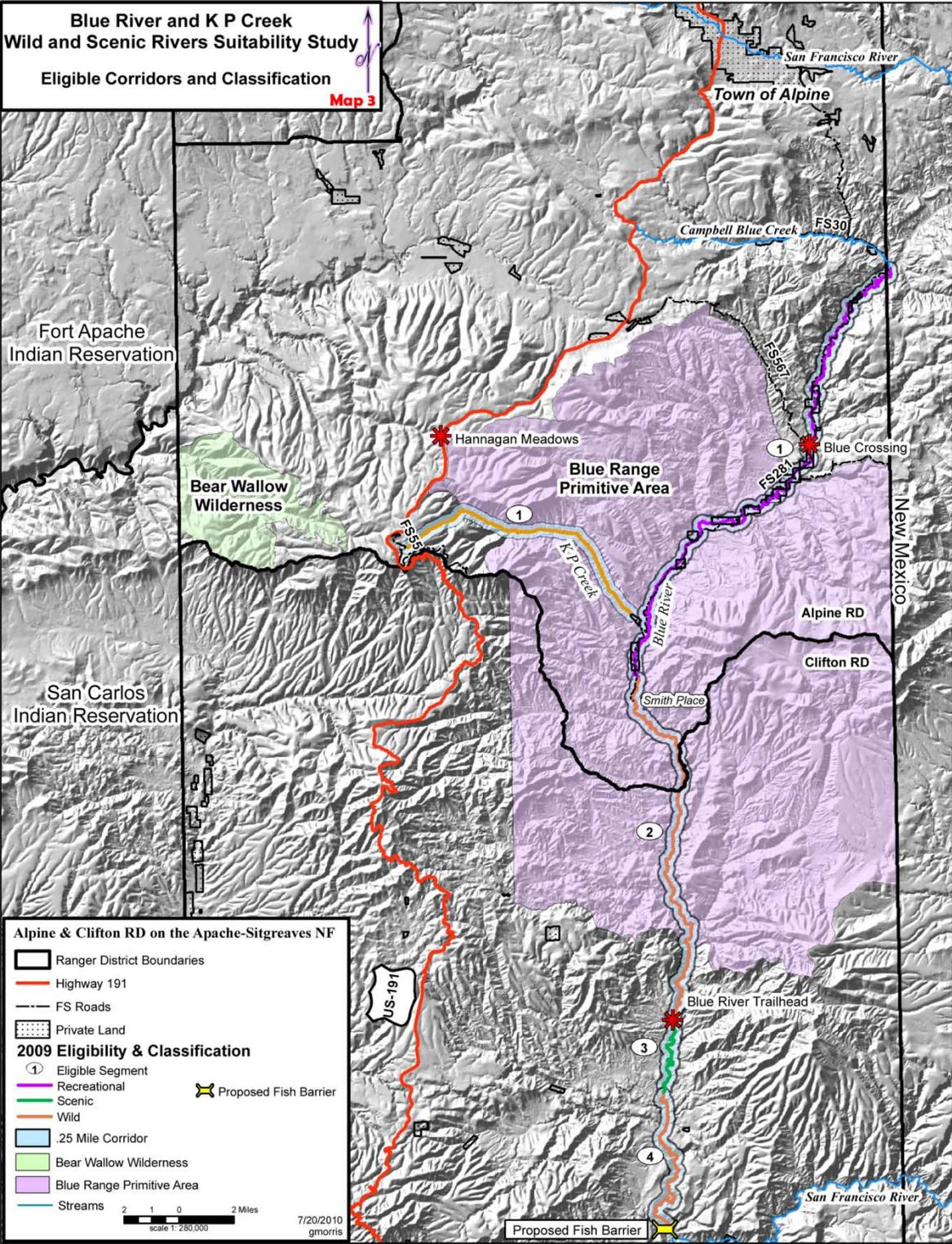
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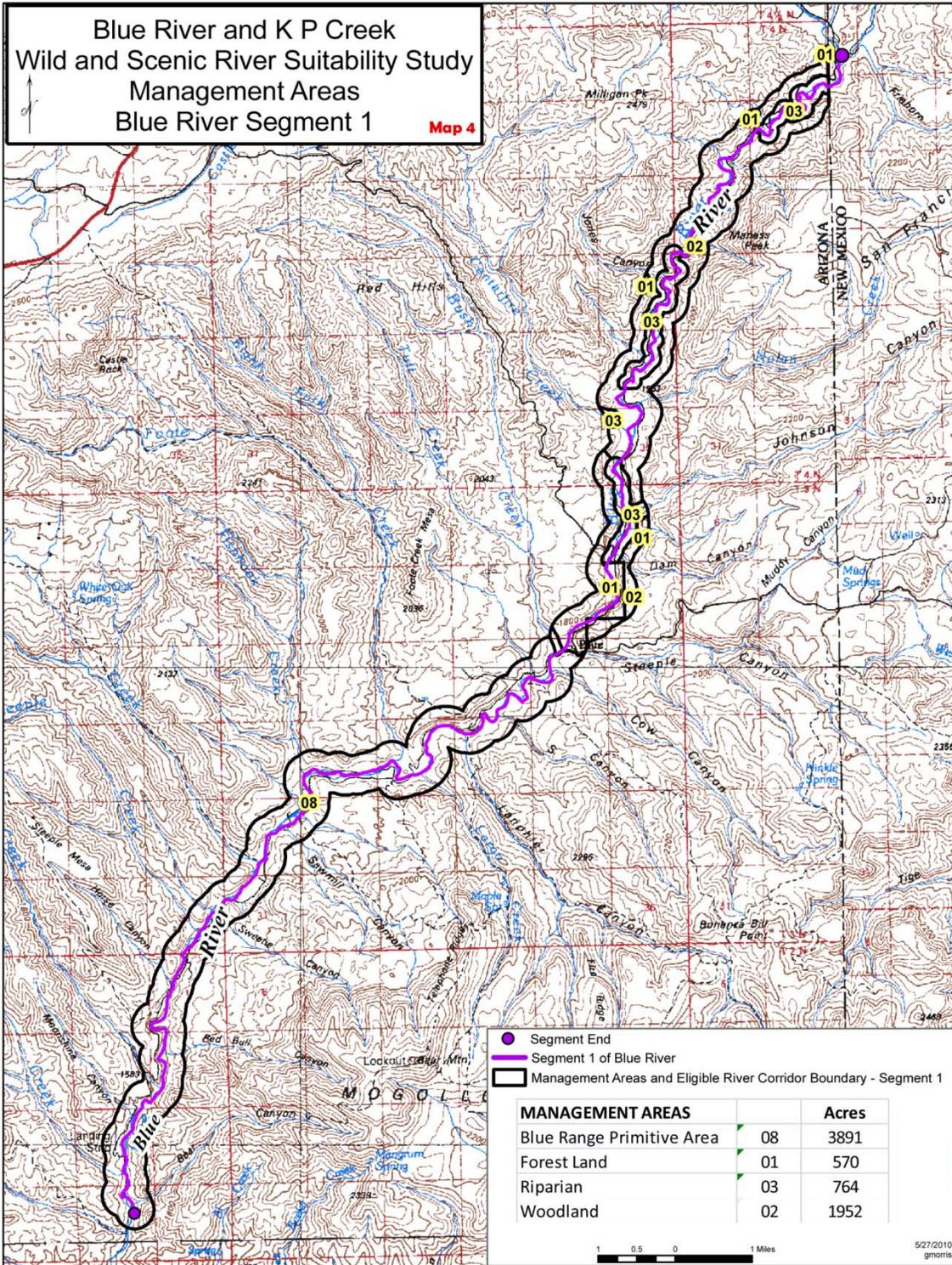


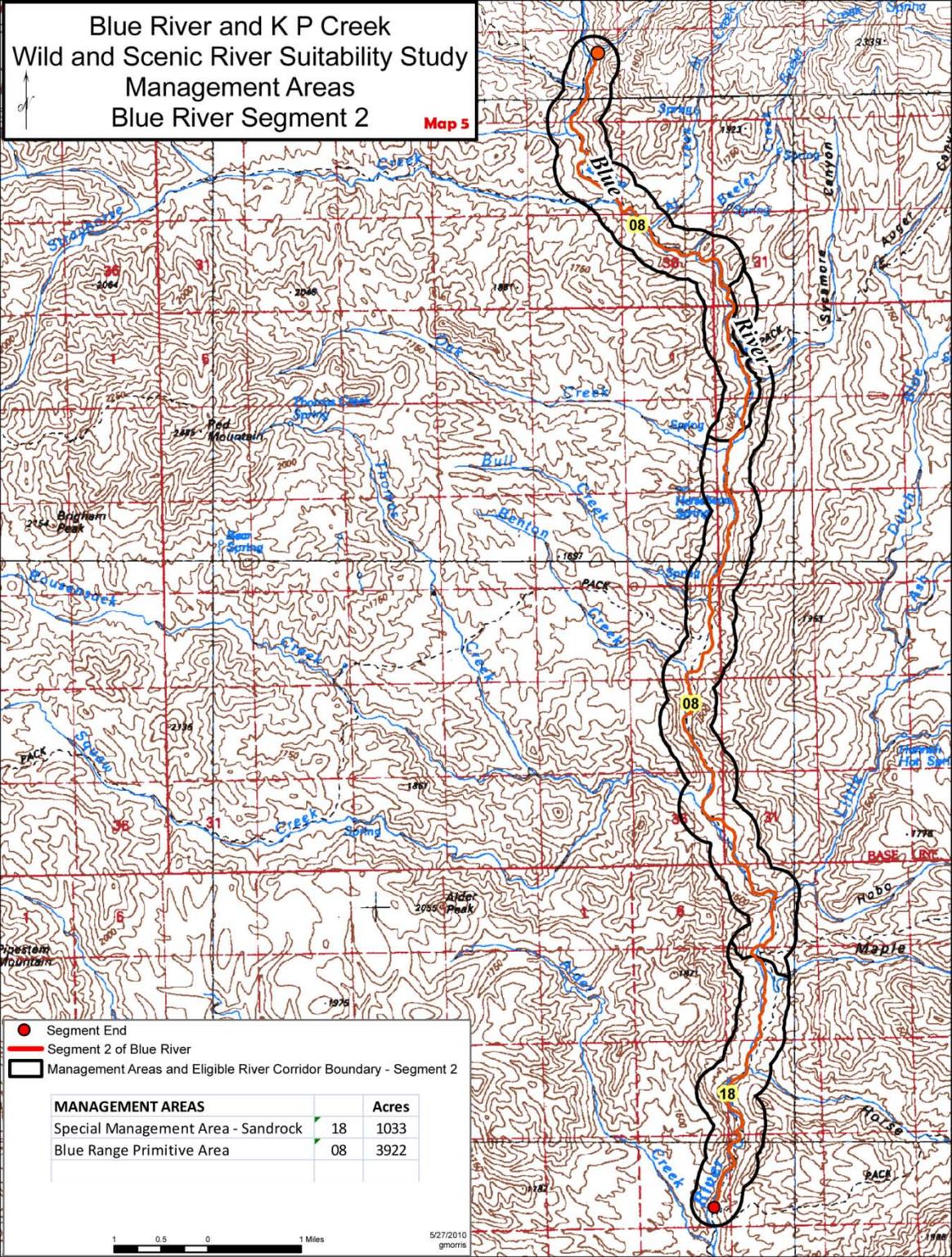
# Appendix A – Maps

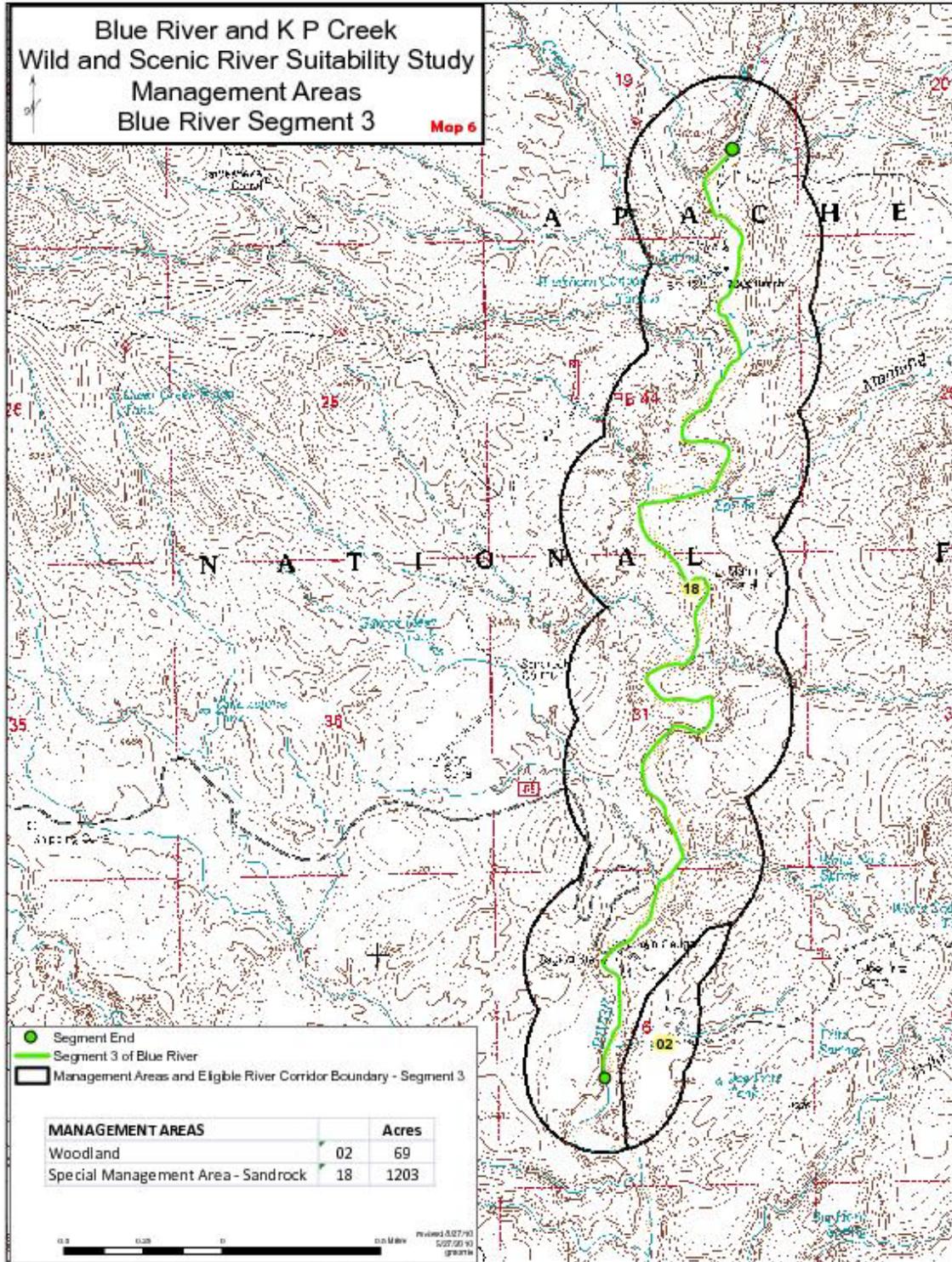


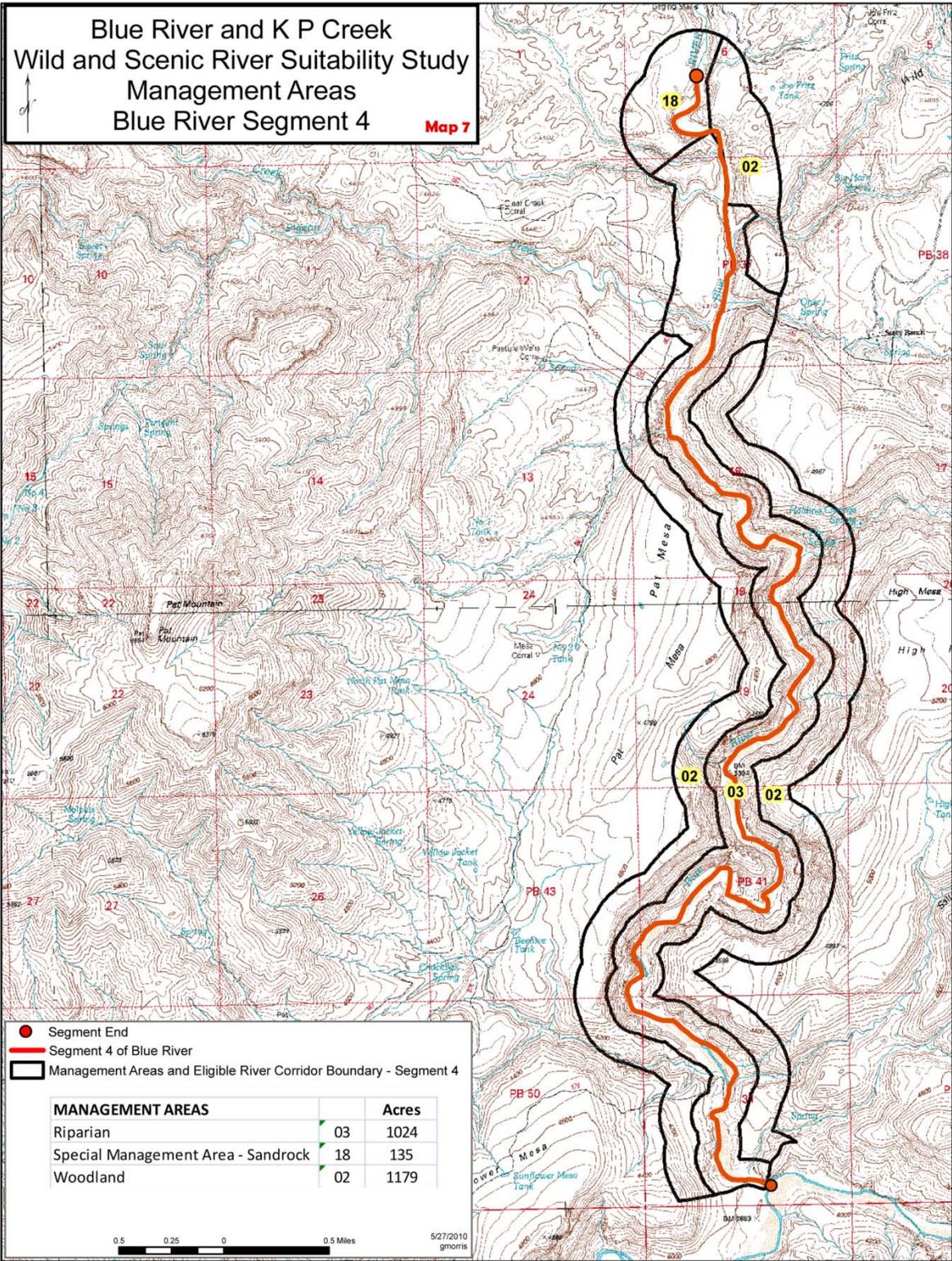


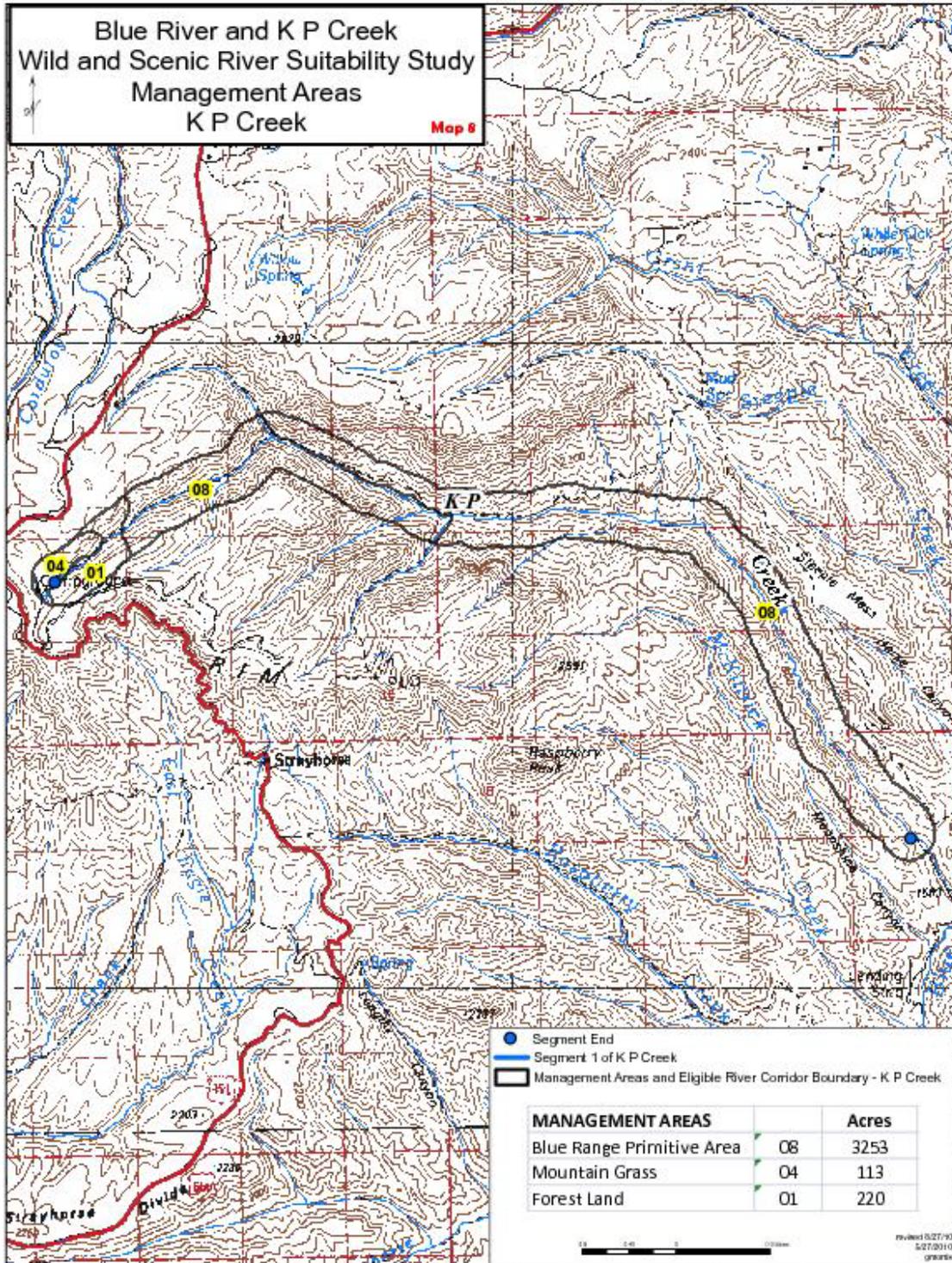


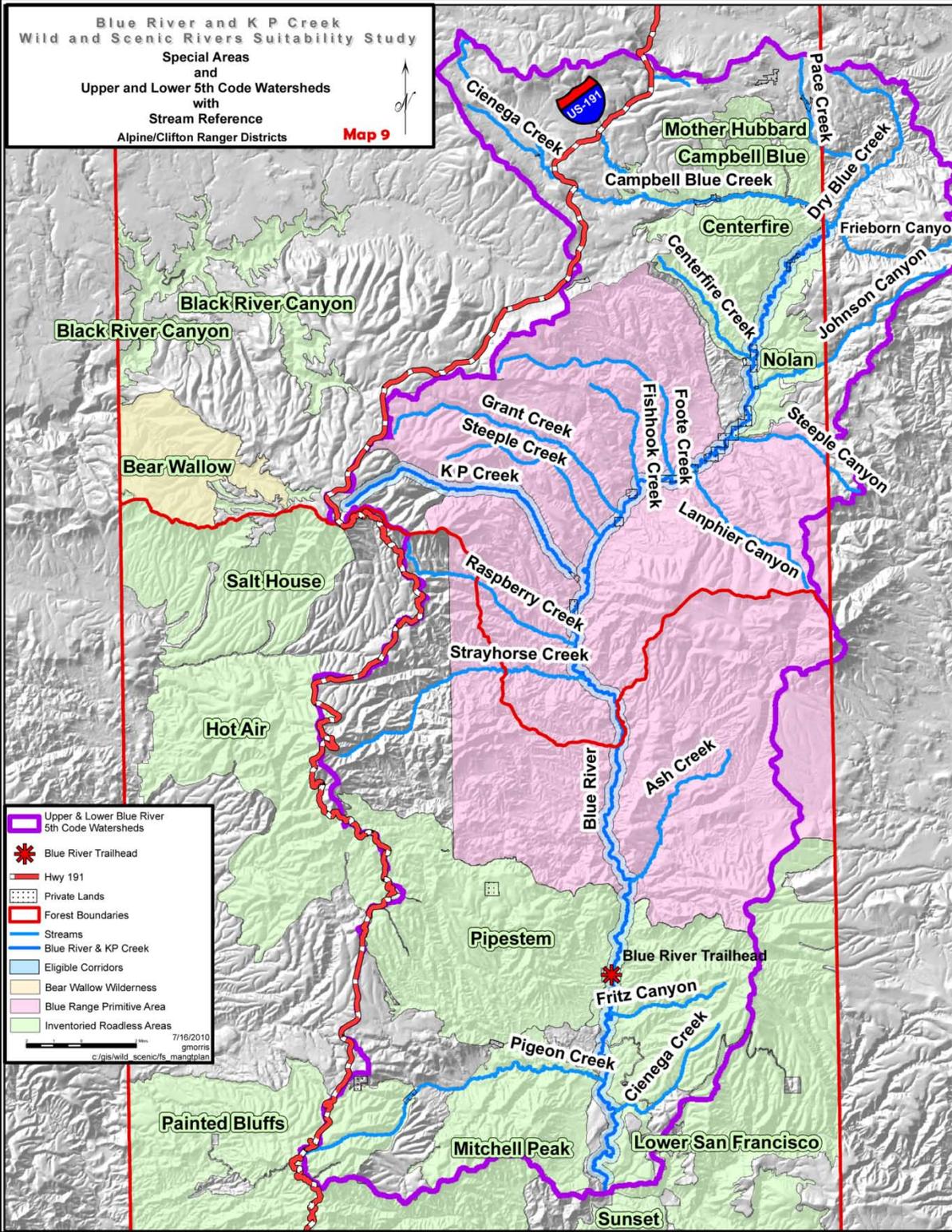


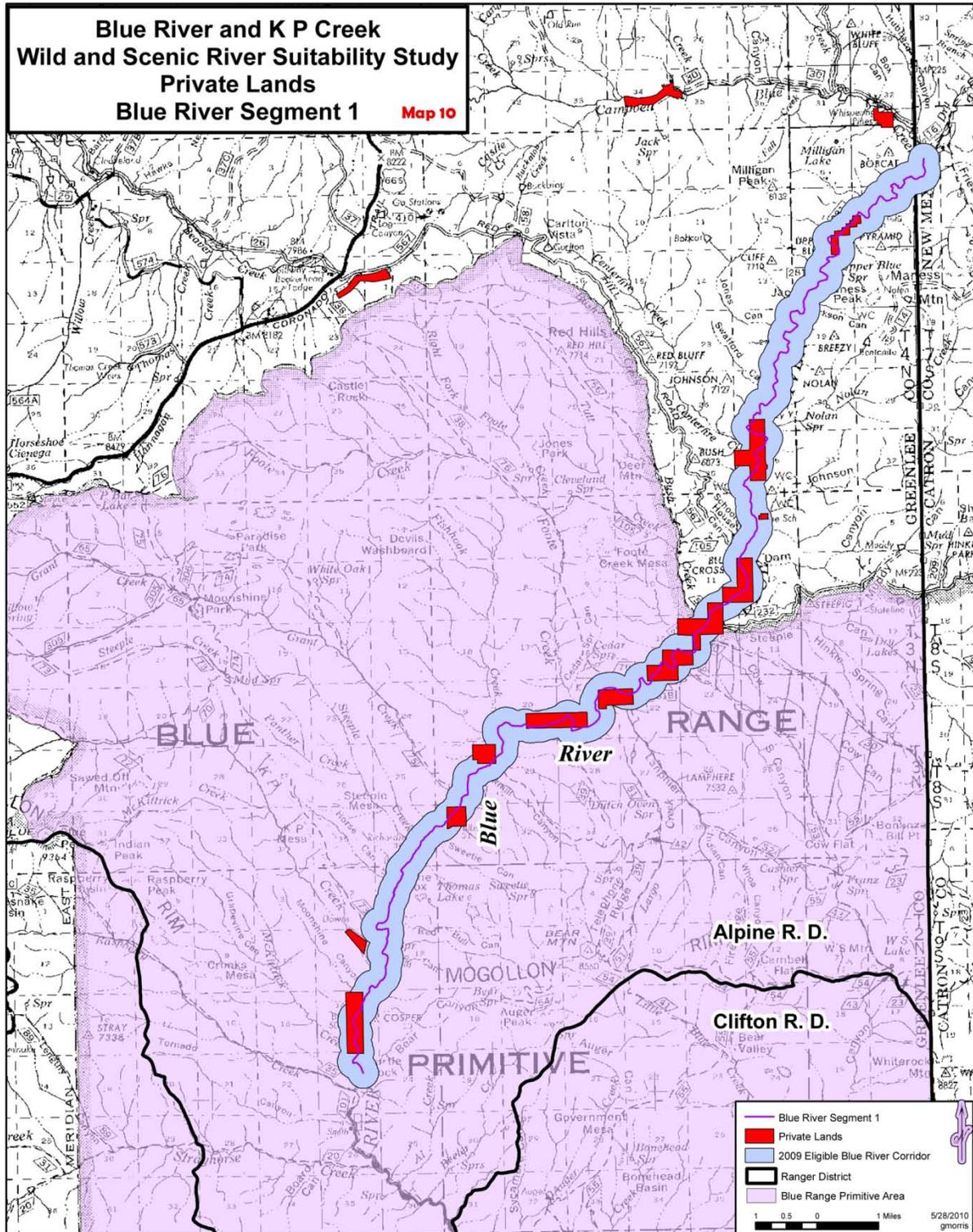


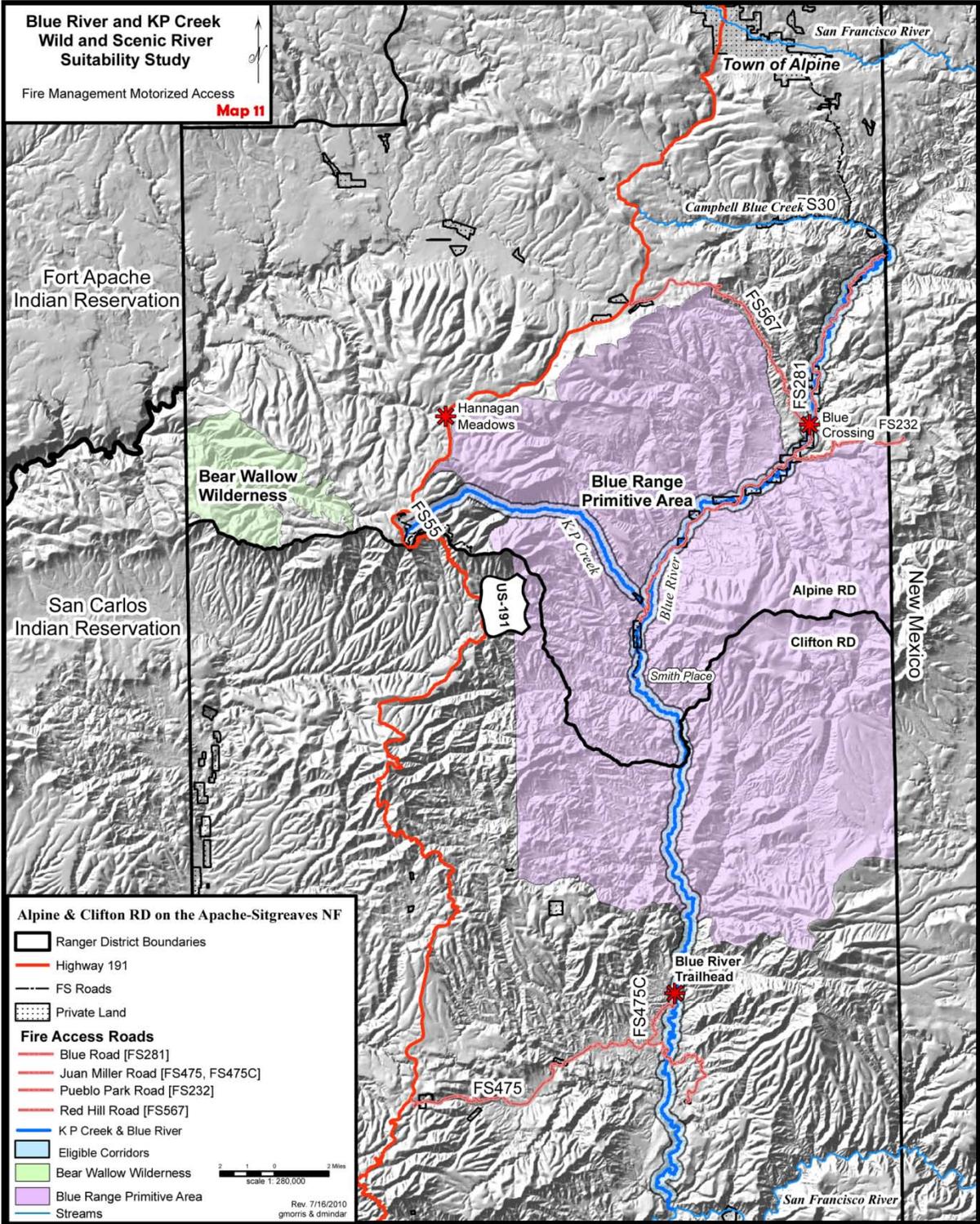


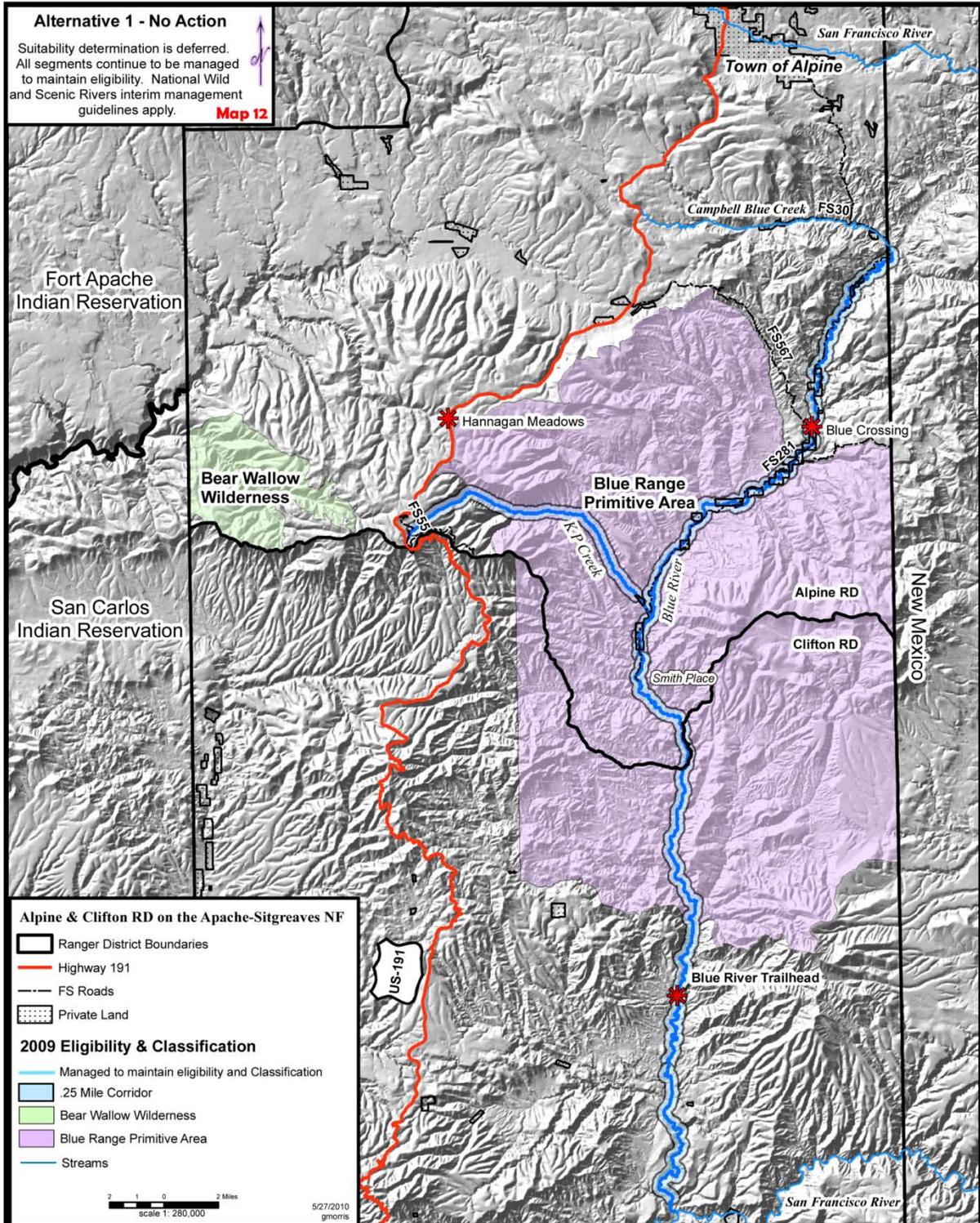


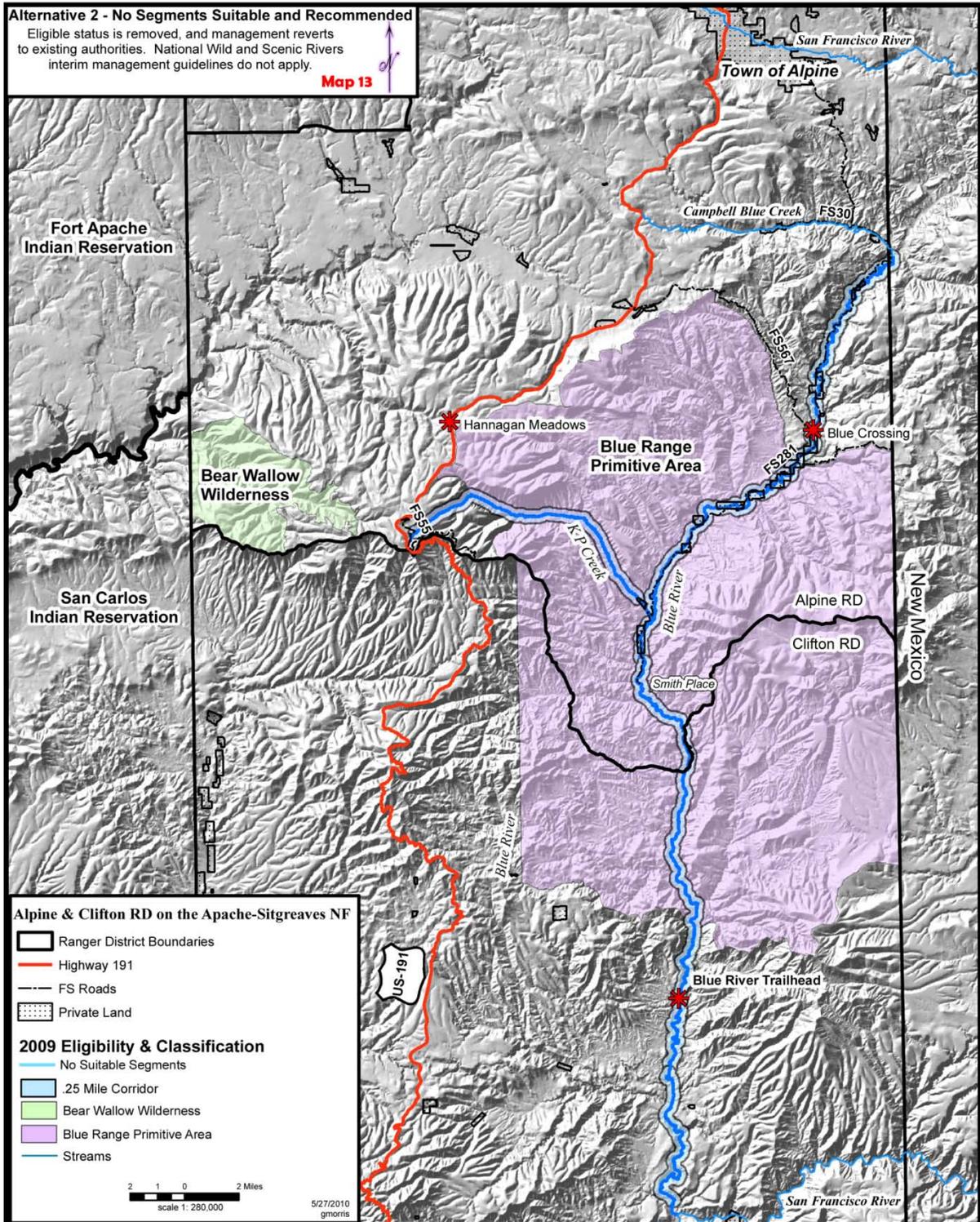


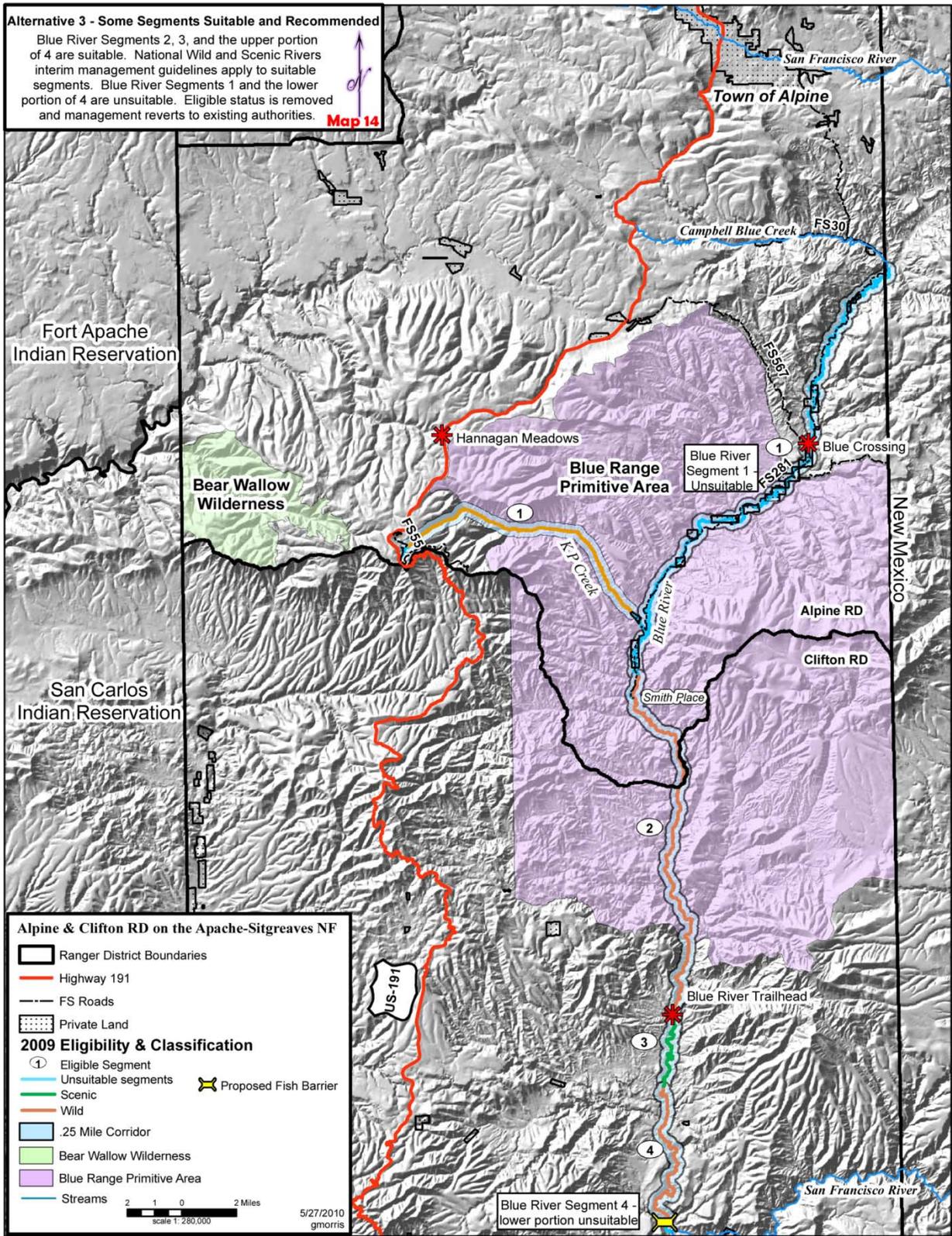


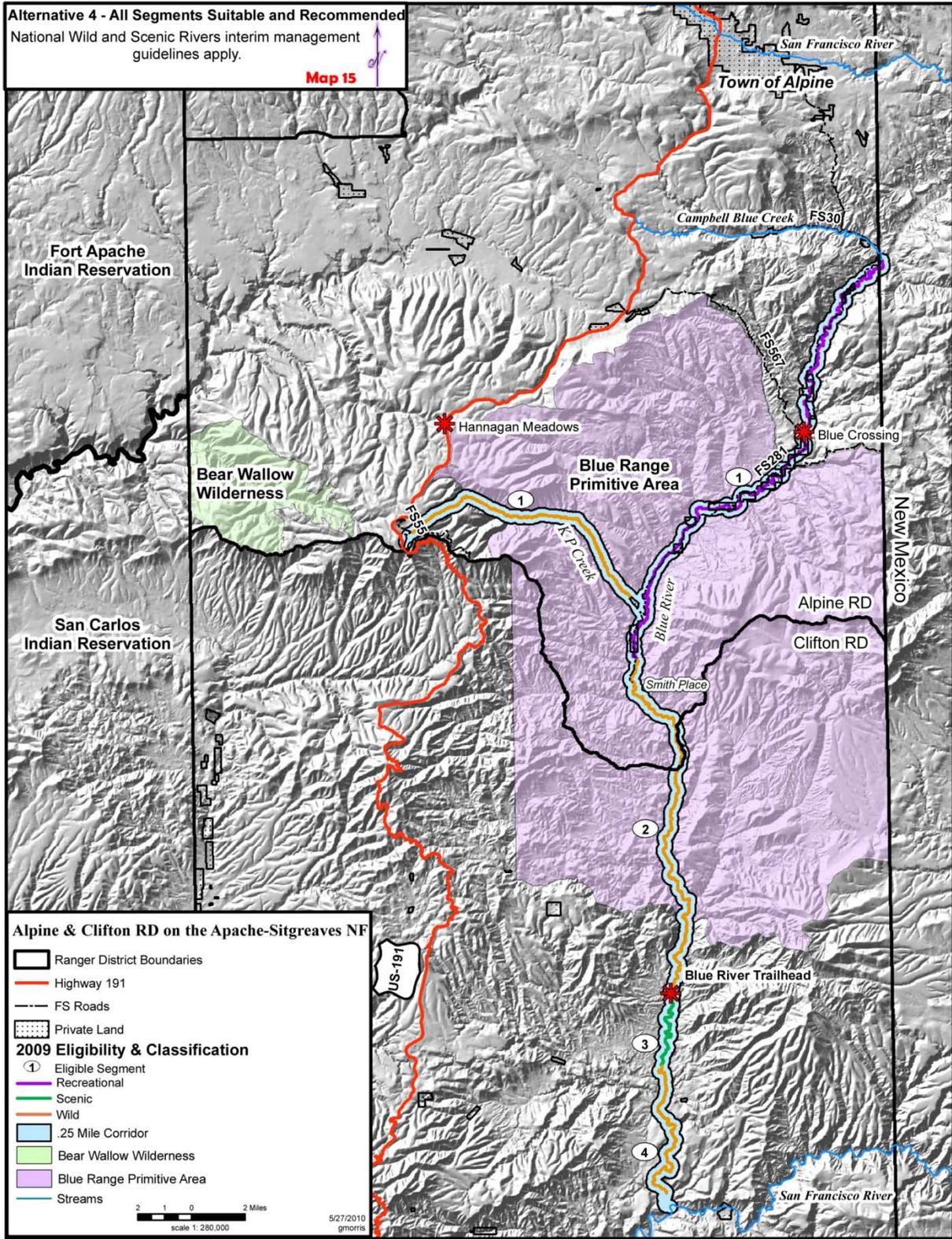














# Appendix B – Eligibility Report Excerpt



United States  
Department of  
Agriculture

Forest  
Service

Southwestern  
Region

May 2009



## Eligibility Report for the National Wild and Scenic River System

Apache-Sitgreaves  
National Forests

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Printed on recycled paper – May 2009

# **Eligibility Report for the National Wild and Scenic Rivers System**

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WSR Eligibility Report  
Introduction

## Introduction

### BACKGROUND

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

Rivers may be designated by Congress or, if certain requirements are met, the Secretary of the Interior. Each river is administered by either a federal or state agency. Designated segments need not include the entire river and may include tributaries. For federally-administered rivers, the designated boundaries generally average one-quarter mile on either bank in the lower 48 states and one-half mile on rivers outside national parks in Alaska in order to protect river-related values.

Rivers are classified as wild, scenic, or recreational.

- Wild rivers - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- Scenic rivers - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- Recreational rivers - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The 1987 Apache-Sitgreaves National Forests (ASNFs) Plan made the following recommendations for Wild and Scenic Rivers (WSR):

Recommend the mainstem of the Black River (approximately 16 miles) from the Buffalo Crossing area to the reservation boundary . . . be designated as part of the National Wild and Scenic River System as a scenic river (p.169, electronic version).

Recommend 14 miles of the West Fork of the Black River for inclusion in the Wild and Scenic Rivers System. Recommend 7 miles for wild designation, 3 miles for scenic designation, and 4 miles for recreation designation (p. 172, electronic version). (*The West Fork of the Black River runs from the confluence of the East and West Forks of the Black River near Buffalo Crossing upstream to the forest boundary just south of the Mt. Baldy Wilderness.*)

Recommend Chevelon Creek for addition to the Wild and Scenic Rivers System as a Scenic River. The recommendation will include 29.9 miles of Chevelon Canyon from the confluence of Woods Canyon and Willow Canyon downstream to the forest boundary except for Chevelon Canyon Lake (p. 175, electronic version).

WSR Eligibility Report  
Introduction

Study the main stem of the Blue River from its confluence with the San Francisco River upstream to its confluence with McKittrick Creek in the Blue Range Primitive Area as a candidate stream for eligibility in the Wild and Scenic River System (p. 30, electronic version).

In 1993 the Forest Service finalized the Resource Information Report, Potential Wild-Scenic-Recreational River Designation, National Forests in Arizona. This report identified 22 rivers and 374 miles as eligible<sup>1</sup> for WSR designation on the ASNFs.

In 2001 the Center for Biological Diversity brought suit against the government, claiming that the Forest Service had violated the Wild and Scenic Rivers Act by failing to consider and provide protection for 57 rivers in Arizona, including those on the ASNFs. This case was heard by the District Court in Arizona (which ruled in favor of the Forest Service), appealed to the Ninth Circuit Court of Appeals (which initially ruled in favor of the plaintiffs), and then reheard by the Ninth Circuit.

On January 7, 2005, the Ninth Circuit Court of Appeals issued an amended opinion. The Ninth Circuit Court affirmed the district court's dismissal of the Center for Biological Diversity's suit for lack of standing. However, the court reversed the district court's opinion that the plaintiffs could not amend their complaint, concluding that the plaintiffs may be able to assert a claim against the Forest Service for failure to act.

In its opinion, the Court concluded that the Forest Service's 1993 Resource Information Report, prepared for the Arizona Congressional Delegation, constitutes eligibility for the 57 rivers contained in that report. Forest Service policy at FSH 1909.12, Chapter 8.12 states that management prescriptions for eligible rivers should provide the following protection:

1. ...free flowing characteristics cannot be modified.
2. Outstandingly remarkable values (ORVs) must be protected, and to the extent practicable, enhanced.
3. Management and development of the river and its corridor cannot be modified to the degree that eligibility or classification would be affected.

As a result of the Ninth Circuit Court of Appeals amended opinion, Regional Forester Harv Fosgren recommended that the Arizona forests update their eligibility determinations for all rivers during Forest Plan revision, because "the determinations . . . done in 1993 may no longer be an accurate measure of what rivers are eligible." (Appendix A)

Also, there is national direction (Forest Service Handbook 1909.12, Chapter 80) to include in the land management planning process a comprehensive evaluation of the potential for rivers in an administrative unit to be eligible for inclusion in the National System (Appendix B). In an internal review of the 1993 Report, it became apparent that some of the information was out-of-date (changes to the Threatened and

---

<sup>1</sup> The eligibility of a river for the National Wild and Scenic Rivers System is determined by applying the criteria in sections 1(b) and 2(b) of the Wild and Scenic Rivers Act of October 2, 1968 as further described in the United States Department of Agriculture and the United States Department of the Interior Guidelines for Eligibility, Classification and Management of River Areas dated September 7, 1982 (USDA-USDI Guidelines) found as Forest Service Handbook 1909.12, chapter 90. To be eligible for inclusion, a river must be free-flowing and, with its adjacent land area, possess one or more "outstandingly remarkable" values. The determination of eligibility is an assessment that does not require a decision or approval document, although the results of this inventory need to be documented as a part of the plan document or plan set of documents.

**WSR Eligibility Report**

**Introduction**

Endangered species list, for example) and other information was missing, so a river eligibility update for the ASNFs was undertaken.

In August 2007, district interdisciplinary teams were requested to review the existing river eligibility information and to provide updates. They were also asked to review the list of ineligible rivers (from a draft of the 1993 Report) and to provide information on why a river is not eligible (not free-flowing or no ORVs) or why a river should be reviewed for eligibility. Updates were gathered during meetings in late August/early to mid-September 2007.

The information gathered from the districts was incorporated into the eligibility documentation for each river. Eligibility was also documented for five rivers, which had previously been found to be ineligible.

## SUMMARY OF MAJOR CHANGES TO THE 1993 ELIGIBILITY EVALUATIONS

### *LITTLE COLORADO RIVER BASIN*

Willow Creek - Scenery and Geology Outstandingly Remarkable Values (ORV) were dropped. When compared to nearby river canyons, these values were not outstanding.

Willow Springs Canyon - Willow Springs Canyon is no longer eligible because there are no ORVs. When compared to other rivers in the area of comparison, the interdisciplinary team felt that the scenery was not unique and, therefore, was not an outstandingly remarkable value. Scenery was the only identified ORV.

Woods Canyon/Chevelon Creek - Chevelon Creek and Woods Canyon were combined into one evaluation because they are within the same drainage basin and the interdisciplinary team felt that the values were complimentary. The Geology ORV was dropped, because when compared to nearby canyons, this value was not outstanding. New segments were identified to accommodate facilities which cross or are within the river corridor.

West Fork Little Colorado River - Segment 2 was extended downstream. The section of Segment 3 with two fish barriers was removed because the free-flowing character of the river had been affected. The river section is no longer flowing in a natural condition and the gabion structures have modified the waterway. Another section of Segment 3, from the Government Springs trailhead/toilet to the forest boundary, was removed because its short length is not manageable as an eligible river.

East Fork Little Colorado River - The river section from the upper fish barrier downstream is no longer eligible because the two fish barriers affect the free-flowing character of the river. This river section is no longer flowing in a natural condition and the gabion structures have modified the waterway.

South Fork Little Colorado River - Scenery ORV was added. Prehistoric ORV was dropped because these resources are on state and private lands north of the forests. The river segment was extended south (upstream) to Forest Road 409. The original eligible segment was split to remove two fish barriers that affect the free-flowing character of the river. The river at these locations is no longer flowing in a natural condition and the concrete-slab structures have modified the waterway. The river north of the lower fish barrier was dropped for manageability reasons because it crosses less than ¼ mile of Forest Service land and is not contiguous to another river segment.

### *SALT RIVER BASIN*

Bear Wallow Creek - Recreation and Wildlife ORVs were added. The original river segment was split to reflect the presence of a low, naturalized fish barrier in Segment 2.

Black River - Vegetation ORV was dropped.

WSR Eligibility Report  
Introduction

Major Changes to 1993 Eligibility Evaluations

West Fork Black River - Historic and Vegetation ORVs were dropped. Segment 1 was extended to below Forest Road 116. The section of Segment 2 with two fish barriers removed because the free-flowing character of the river has been affected. The river section is no longer flowing in a natural condition and the gabion and concrete structures have modified the waterway. Segment 3 was dropped because there are no ORVs.

East Fork Black River - The North Fork East Fork Black River was analyzed separately. The remaining river was split into 3 segments. A portion of the original Segment 1 (now Segment 2) classification was changed from Scenic to Wild.

North Fork East Fork Black River - Segments 1 and 2 were added to the evaluation. Segment 3 was split from the East Fork Black River evaluation. Segment 3 classification was changed from Scenic to Wild.

Fish Creek - Scenery ORV was added. The original river segment was split to reflect the presence of a low, naturalized fish barrier in Segment 2.

Home Creek - Home Creek is no longer eligible because it is not free-flowing. Two dirt, gabion, and concrete fish barriers were constructed across it. It is no longer flowing in a natural condition and the structures have modified the waterway. Other river-related values are neither unique nor outstanding.

*UPPER GILA RIVER BASIN*

Campbell Blue Creek - Campbell Blue Creek has been analyzed separately from the Blue River. Wildlife and Vegetation ORVs were added.

Blue River - The Blue River was analyzed without Campbell Blue Creek. The original Segment 2, from the Smith Place to the confluence with the San Francisco River, was split into three segments. Segments 2 and 4 were reclassified as Wild. Segment 3, between the Blue River Trailhead (XXXX Ranch) and ½ mile below Forest Road 475, remains Scenic.

KP Creek - Recreation, Fish, and Wildlife ORVs were added.

Little Blue Creek - Little Blue Creek was found to be eligible.

Turkey Creek - Turkey Creek was found to be eligible.

Coal Creek - Coal Creek was found to be eligible.

Dix Creek - Portions of Dix Creek were found to be eligible.

Sardine Creek - Sardine Creek was reclassified from Scenic to Wild because "The existence of a few inconspicuous structures, particularly those of historic or cultural value, at the time of study need not bar Wild classification."

**WSR Eligibility Report  
Introduction**

**Major Changes to 1993 Eligibility Evaluations**

**Chitty Creek - Chitty Creek was found to be ineligible. Chitty Creek no longer has any ORVs because in 2007 a 1,000-year flood scoured the channel, removed the riparian vegetation and habitats, and filled the waterfall.**

**East Eagle Creek - East Eagle Creek was found to be eligible.**

**Eagle Creek - Upper Eagle Creek, from the headwaters (Dogwood Spring) south to Dry Prong Creek and south along Dry Prong Creek to East Eagle Creek, was found to be not eligible because there are no associated ORVs.**

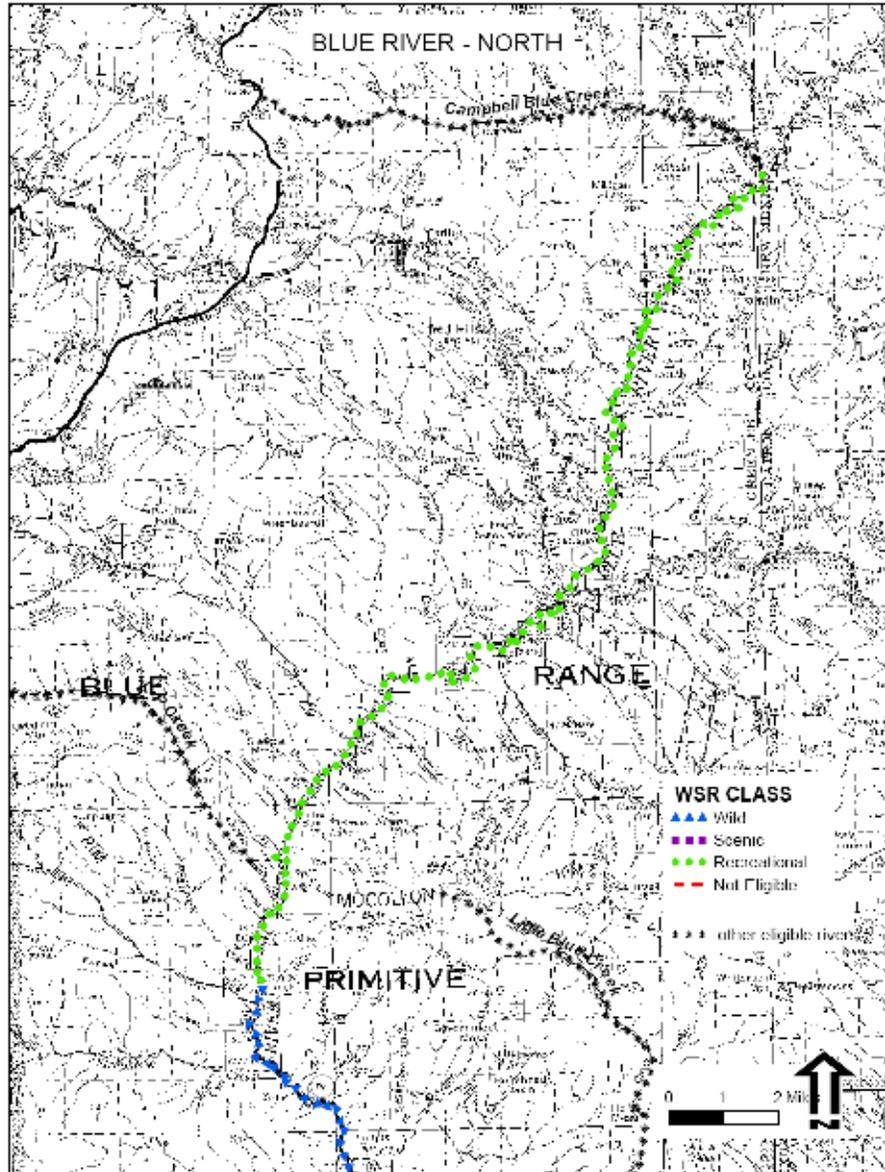
## DOCUMENT NOTES

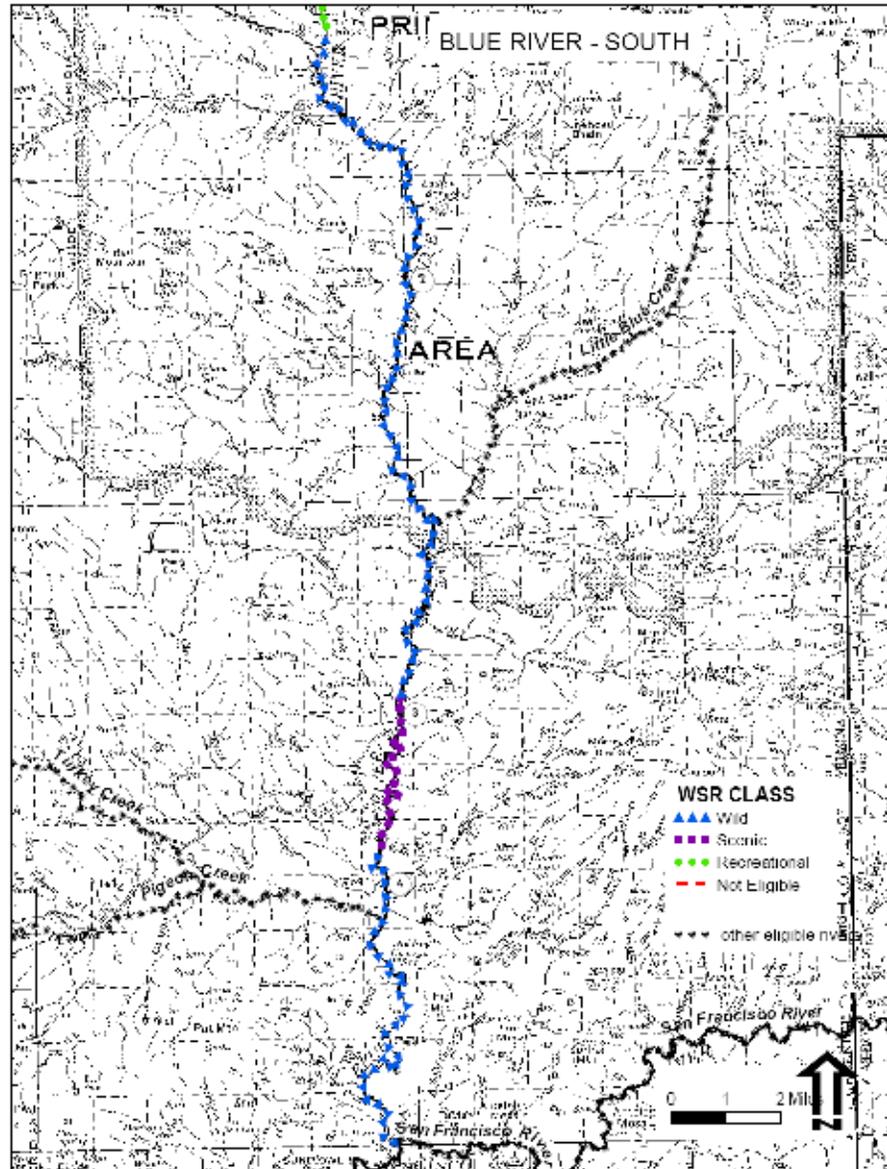
1. The eligibility evaluations were completed prior to development of the forest plan revision. Species Diversity information. Forest and State “sensitive” species were used in the evaluations.
2. Rivers not previously found eligible were evaluated using the R3 Special Areas Working Group format.
3. The Coconino NF reconsidered Leonard Canyon and East Clear Creek, located on the western edge of the ASNFs. They found both rivers to still be eligible for Wild and Scenic River status. There were no changes to the 1993 eligibility evaluations.
4. The Mexican gray wolf has been reintroduced as a non-essential, experimental population under the Endangered Species Act.
5. The maps in this document were created with GIS. The USDA Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those for which they were intended may yield inaccurate or misleading results. The USDA Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. These maps are not legal land line or ownership documents. Public lands are subject to change and leasing, and may have access restrictions; check with local offices. Obtain permission before entering private land.

WSR Eligibility Report  
Eligibility Evaluations

Upper Gila River Basin

## *BLUE RIVER*





WSR Eligibility Report  
Eligibility Evaluations

Upper Gila River Basin  
Blue River

### **Blue River**

<b>Is the River free flowing? Yes or No</b>	Yes
<b>Area of Comparison</b>	Statewide
<b>Potential Outstandingly Remarkable Values</b>	Scenery, Recreation, Fish, Wildlife, Historic, Prehistoric, Vegetation
<b>Eligible Segments</b>	Segment 1 - Blue River from the confluence of Campbell Blue and Dry Blue Creeks downstream through the Smith Place to Bear Creek. Segment 2 - From Bear Creek downstream to ¼ mile above the Blue River Trailhead. Segment 3 - From ¼ mile above the Blue River Trailhead to ½ mile below Forest Road (FR) 475. Segment 4 - From ½ mile below FR 475 to the confluence with the San Francisco River
<b>Classification and Length</b>	Segment 1 - Recreational, 25.1 miles Segment 2 - Wild, 16.0 miles Segment 3 - Scenic, 4.2 miles Segment 4 - Wild, 8.1 miles
<b>Changes from previous documents</b>	Blue River analyzed separately, without Campbell Blue Creek. The original Segment 2 (Scenic) was split into three segments. Segments 2 and 4 were reclassified as Wild. Segment 3, between the Blue River Trailhead (XXX Ranch) and ½ mile below FR 475, remains Scenic.
<b>Location</b>	The Blue River starts at the confluence of Campbell Blue and Dry Blue Creeks. It flows southerly for approximately 53 river miles to the San Francisco River.
<b>Districts</b>	Alpine, Clifton
<b>County</b>	Greenlee
<b>Legal Description</b>	Township/Range: T01N, R30E; T01N, R31E; T02N, R30E; T02N, R31E; T03N, R30E; T03N, R31E; T04N, R31E; T04N, R32E; Gila and Salt River Meridian. T01S, R31E; T02S, R30E; T02S, R31E; Gila and Salt River Meridian

**River-related Resources**

**Scenery**

Scenery is an Outstandingly Remarkable Value (ORV) because of the diversity of landforms, colors, and vegetation found along the river corridor.

The Blue River landscape includes a diversity of textures, colors, and forms which create striking views throughout the river corridor. The river bottom is littered with boulders, rocks, and sediments from the side canyons. The river corridor varies from wide floodplains separated by narrow box canyons to wide or narrow sandy river bottoms to relatively narrow canyons with towering canyon walls.

Slumps and fault lines are visible in places like the Blue Box, near an unusable bridge. The river cuts through dark lava flows, red walls, white volcanic ash, and rock-studded conglomerate. In places, water flows through narrow, almost slot-like reaches and elsewhere through wide and meandering floodplains.

**Recreation**

Recreation is an ORV because the recreation opportunities are diverse and attract visitors from throughout and beyond the area of comparison. Many visitors are attracted because of the remote and primitive setting.

Segment 1 - Recreation opportunities include picnicking, camping, swimming, and hiking. There are also opportunities for mountain biking along FR 281, which parallels and crosses the Blue River. Many trailheads provide non-motorized access to the Blue Range Primitive Area.

Segment 2 - Most of this segment is in the Blue Range Primitive Area.

Hiking, backpacking, camping, horse packing, and hunting all occur along this river segment and its canyon corridors. This portion of the Blue River area is a very remote, vast, and undeveloped so it offers a primitive recreation experience unlike elsewhere in the state.

Segment 4 - Advanced canoeing and kayaking are possible during high runoff seasons starting from FR 475 (Juan Miller road).

**Geology**

The upper portion consists of fossil-bearing river and lake deposits of middle or early Pliocene age within the present drainage system and related conglomerate, sand, silt, and clay.

The lower portion includes Tertiary and Cretaceous age acid volcanic rocks. These irregularly-shaped flows consist of light-colored andesites which locally include layers of tuff and agglomerate. These are intensely eroded, faulted, and broken. There are several rock formations and box canyons along the Blue River.

WSR Eligibility Report Eligibility Evaluations	Upper Gila River Basin Blue River
<b>Fish</b>	<p>Fish species and habitat are ORVs because the Blue River contains one of the highest number of native fish species. This habitat is crucial to the survival of many native fish species.</p> <p>Threatened fish species include loach minnow. The Blue River has been identified in as critical habitat for the loach minnow. Sensitive fish species include longfin dace, desert sucker, and Sonora sucker.</p> <p>Other native fish include speckled dace. Non-native fish present are flathead minnow, red shiner, channel and flathead catfish, mosquitofish, common carp, yellow bullhead, and rainbow and brown trout.</p>
<b>Wildlife</b>	<p>Wildlife species and habitat are ORVs because of the diversity of species and habitats that are found along the river corridor.</p> <p>Threatened wildlife species include Mexican spotted owl (Segment 1). Candidate wildlife species include western yellow-billed cuckoo and Mexican gartersnake. Sensitive wildlife species include bald eagle (winter), American peregrine falcon (summer), common black-hawk, Arizona Bell's vireo, narrow-headed gartersnake, Arizona toad, and lowland leopard frog. The Blue River is within the primary recovery zone for the Mexican gray wolf.</p> <p>The threatened Chiricahua leopard frog was once common in the Blue River but is currently not present. Segment 4 is within Recovery Unit 7, San Francisco Management Area of the Chiricahua Leopard Frog Recovery Plan.</p> <p>The Blue River area provides habitat for Rocky Mountain elk, mule deer, Coues deer, bighorn sheep, black bear, javelina, Gambel's and Montezuma quail, coyote, coatimundi, fox, bobcat, and mountain lion. Wild turkey forage in places along the canyon bottom and roost along the lower slopes of canyon walls. The river corridor could function as a travel corridor for the endangered jaguar expanding its range from southeast Arizona.</p> <p>The Blue River serves as a migration corridor for neotropical migrants and is part of the identified Blue River Complex Important Bird Area.</p>
<b>Historic</b>	<p>Historic resources are an ORV because of the length of post-settlement use in the area.</p> <p>The Blue River area was notorious for cattle rustling in the mid-1800s. By the late 1800s several small cattle ranching homesteads were established along the Blue River. Some of these historic ranch headquarters on Segment 1 are still used today and remind visitors of the area's ranching heritage. The Forest Service was also present along the Blue. The Baseline Ranger Station, established circa 1908, was located on the southern boundary of the Blue Range Primitive Area. Evidence of high-quality Civilian Conservation Corps construction work can be seen in Upper Blue and Blue Crossing Campgrounds.</p>

WSR Eligibility Report Eligibility Evaluations	Upper Gila River Basin Blue River
<b>Prehistoric</b>	<p>Prehistoric resources are an ORV because the river corridor contains extensive evidence of occupation and use by the Mogollon culture.</p> <p>Potentially thousands of prehistoric sites occur along the Blue River, which figured significantly in the prehistoric Mogollon culture. During prehistoric times, the area around the river provided all life-sustaining resources including game animals, wild resources, reliable water for agriculture, building materials, and suitable locations for habitation sites. Typical sites include rock shelters, shard and lithic scatters, pit-house villages, and rock masonry room blocks or pueblos.</p>
<b>Hydrology</b>	<p>The Blue River is perennial but flow varies greatly, depending on winter and summer rains. Flooding is common during spring run-off and summer monsoons and can turn the quiet river into a raging torrent.</p> <p>There are several minor diversions on private lands that are used for irrigation.</p> <p>The effects of several large fires in the upper reaches of four main tributaries in the early 2000s increased sediment flow and deposition, but because of the river canyon's size, the floodplain is always changing.</p>
<b>Vegetation</b>	<p>Vegetation is an ORV because of the great diversity of vegetation communities associated with the changes in elevation, including the deciduous shrub and tree canopies along the river segments. The diversity of riparian species attracts a wide variety of avian species.</p> <p>The river corridor contains a diverse mix of species including alligator and one-seed juniper and occasional piñon and ponderosa pine. Grey and Emory oak, mountain mahogany, Wright's silktassel, buckbrush, desert ceanothus, and some mesquite also occur. Perennial bunchgrasses can be abundant within the canyon, with five different species of grama grasses present. There are also more than seven species of muhly grasses.</p> <p>Riparian vegetation includes narrowleaf and Fremont cottonwood, Arizona sycamore, boxelder, Arizona walnut, alder, various willows, ash, hoptree, and seepwillow (not a true willow). The tree canopy is not continuous, but broken up by vertical rock canyons that eventually open to gentler slopes. Wildflowers bloom in the spring and after summer rains, while sand-loving grasses such as vine mesquite, creeping muhly, and sand dropseed are found in the river's shifting floodplain.</p>
<b>Land Ownership</b>	<p>Approximately 7.7 miles (32 percent) of Segment 1 are privately owned. The remainder of Segment 1 and all of Segments 2, 3, and 4 are national forest.</p>

WSR Eligibility Report Eligibility Evaluations	Upper Gila River Basin Blue River
<b>Transportation</b>	<p>Segment 1 - FR 281 parallels the Blue River from its origin to the private lands in section 14, T02N, R30E, providing vehicle access to almost the entire segment. Trails that leave the Blue River in Segment 1 and provide access to the Blue Range Primitive Area include Hinkle Trail #30, South Canyon Trail #53, Foote Creek Trail #76, Lanphier Trail #52, Sawmill Trail #39, Old Sawmill Trail #115, Grant Creek Trail #75, and Steeple Trail #73.</p> <p>Segment 2 - Access from the west is from U.S. Highway 191 via trails. These trails include Raspberry Trail #35, Strayhorse Trail #20, and A D Bar Trail #14. Access from the east is via Forest Road 104 and the Baseline Trail #310. Blue River Trail #101 parallels the river from the trailhead at XXXX Ranch north to the Smith Place. Other trails that leave the Blue River Trail include Cow Flat Trail #55, Winter Cabin Trail #706, HU Bar Trail #540, Baseline Trail #310, Little Dutch Blue Trail #541, Horse Canyon Trail #36, and AC Trail #349.</p> <p>Segment 3 - Access from the west is from U.S. Highway 191 via the Juan Miller Road/FR475 and FR 475C.</p> <p>Segment 4 - Trails that leave the river segment below the road crossing include Bohom Trail #561 and Pat Mountain Trail #576.</p> <p>Segments 2, 3, and 4 are closed to motorized vehicle use, except the FR 475 crossing.</p>
<b>Livestock Grazing</b>	<p>Livestock grazing has not been authorized along the Blue River since the mid-1990s because of the sensitivity of the riparian area.</p>
<b>Past Activities</b>	<p>Occasional suppression of small wildfires and some livestock grazing.</p>
<b>Special Land Uses</b>	<p>The Blue River corridor is used by licensed and permitted outfitters and guides for hunting and fishing.</p> <p>Segment 1 - The Upper Blue Crossing and Blue Crossing Campgrounds are located along this segment. A power line parallels entire segment. There is one special use authorization for a water diversion structure near the Grant Creek trailhead.</p> <p>Segment 3 - There is a cable car across the Blue River just upstream of Forest Road 475 and a stream gauging station just downstream of the road.</p>
<b>Special Management Designations</b>	<p>The Blue River is adjacent to Centerfire, Nolan, and Pipestem Inventoried Roadless Areas (IRA); adjacent to and within Blue Range Primitive Area (13 miles within); and within and adjacent to Lower San Francisco IRA.</p>
<b>Other</b>	<p>The Blue River is a popular year-round destination for users from across the state, region, and local communities of Morenci, Clifton, Duncan, and Safford, Arizona and Glenwood and Reserve, New Mexico.</p>

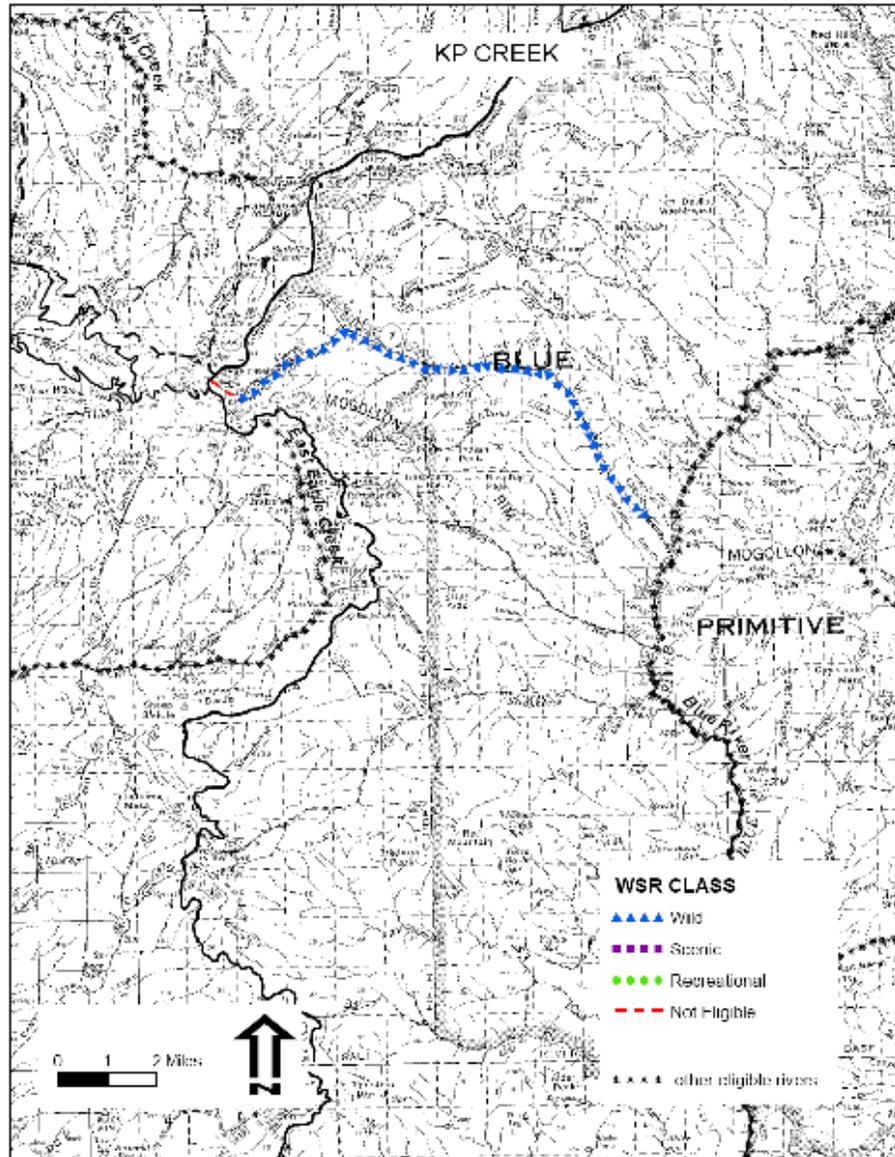
WSR Eligibility Report  
Eligibility Evaluations

Upper Gila River Basin

## *KP CREEK*

WSR Eligibility Report  
Eligibility Evaluations

Upper Gila River Basin  
KP Creek



WSR Eligibility Report  
Eligibility Evaluations

Upper Gila River Basin  
KP Creek

**KP Creek**

<b>Is the River free flowing? Yes or No</b>	Yes
<b>Area of Comparison</b>	Statewide
<b>Potential Outstandingly Remarkable Values</b>	Scenery, Recreation, Fish, Wildlife
<b>Eligible Segment</b>	One segment, from the KP Trailhead to the private land boundary in section 11, T02N, R30E, approximately 1 mile northwest of the Blue River.
<b>Classification and Length</b>	Wild, 11.3 miles
<b>Changes from previous documents</b>	Recreation, Fish, Wildlife Outstandingly Remarkable Values (ORV) added.
<b>Location</b>	KP Creek originates near the Mogollon Rim close to U.S. Highway 191. From its origin it flows generally east and southeast for approximately 13 miles to the Blue River.
<b>District</b>	Alpine
<b>County</b>	Greenlee
<b>Legal Description</b>	Township/Range: T02N, R30E; T03N, R29E; T03N, R30E; Gila and Salt River Meridian

**River-related Resources**

<b>Scenery</b>	<p>Scenery is an ORV because of the lush vegetation, steep canyon walls, and tumbling waterfalls.</p> <p>The scenery is widely diverse. Upper KP Creek rushes down a steep, thickly-forested canyon with lush riparian vegetation. Two small waterfalls can be seen from KP Trail, which follows the creek downstream. Additional waterfalls are found about 7 miles downstream, but these are located off the trail. Grassy flats contrast with large, old-growth ponderosa pines and provide views into deep pools and across to canyon walls.</p>
<b>Recreation</b>	<p>Recreation is an ORV because the recreation opportunities attract visitors from throughout the area of comparison and have the potential to attract visitors from beyond the area of comparison.</p> <p>KP Creek provides opportunities for hiking, fishing, backpacking, and horseback riding. A popular day-hike destination is two small waterfalls about 3 miles downstream from KP Cienega. KP Creek also provides access to the Blue Range Primitive Area.</p>

WSR Eligibility Report Eligibility Evaluations	Upper Gila River Basin KP Creek
<b>Geology</b>	<p>KP Creek lies within the Colorado Plateau province, although more severely faulted and disturbed than the plateau to the north. All of the exposed rocks that are either volcanic or epiclastic (eroded volcanic) in origin. Rocks of upper KP Creek are basalt or andesite of Quaternary and Tertiary age. These gradually give way to epiclastic volcanic sediments ranging from mudflow breccia to volcanic conglomerate, sandstone, and siltstone. The slopes above KP Creek near its confluence with the Blue River have exposed Tertiary-aged rhyolite ash-flow tuff overlain by buff to gray colored, gently tilted beds of conglomerate formation.</p>
<b>Fish</b>	<p>Fish habitat is an ORV because of the high quality habitat that supports native fish species.</p> <p>Sensitive fish species include desert sucker.</p> <p>KP Creek provides habitat for native speckled dace, non-native rainbow trout, and hybrid Apache trout. KP Creek is a future release site for the threatened Gila trout.</p>
<b>Wildlife</b>	<p>Wildlife species and habitat are ORVs because of the diversity and quantity of wildlife species and the quality of the habitat.</p> <p>Threatened wildlife species include Mexican spotted owl. Sensitive wildlife species include bald eagle, American peregrine falcon, narrow-headed gartersnake, Ferris' copper and four-spotted skipperling butterflies, and, possibly northern leopard frog. KP Creek is within the Mexican gray wolf primary recovery zone.</p> <p>The dense vegetation and large down logs make the river corridor prime habitat for black bear and blue (dusky) grouse, both species which require high quality habitat. Bobcat and mountain lion frequent this unroaded, wild country.</p> <p>Mule deer can be spotted; Coues deer are occasionally seen in the lower elevations. Several Mexican spotted owl pairs have territories along the river corridor and in the late winter and early spring pairs may be heard calling. The riparian corridor provides habitat for small mammals such as voles and mice, important owl prey species. Migratory birds that use high-elevation riparian areas include MacGillivray's, red-faced, and yellow warblers. The yellow-breasted chat may use the lower elevation portion of the river corridor. Other wildlife species along the river segment include Rocky Mountain elk, Abert's squirrel, long-tailed weasel, and coyote.</p> <p>The lower 5 miles of KP Creek are part of the identified Blue River Complex Important Bird Area.</p>
<b>Historic</b>	<p>There are no known historic resources.</p>
<b>Prehistoric</b>	<p>There are no known prehistoric resources.</p>
<b>Hydrology</b>	<p>There are no dams or diversions. The State of Arizona has classified the entire river segment as a "unique water" because of its high water quality.</p>

WSR Eligibility Report Eligibility Evaluations	Upper Gila River Basin KP Creek
<b>Vegetation</b>	<p>Sensitive plant species include Goodding’s onion and Blumer’s dock.</p> <p>A variety of vegetation occurs on the canyon slopes because of differing slope aspects. On north-facing slopes, the vegetation consists of spruce, Douglas-fir, and ponderosa pine with side drainages possibly supporting Goodding’s onion. On the south-facing slopes, vegetation is primarily oak, mountain mahogany, and juniper and piñon. Riparian vegetation in upper KP Creek includes alder, willow, and other uncommon plants such as baneberry, sweet cicely, cow parsnip, twinberry, false-hellebore, and monkshood. Blumer’s dock is found along the upper portion of the creek. Lower KP Creek contains boxelder, Arizona walnut, and Arizona sycamore with wild grape and Virginia creeper vines climbing some of the trees. Emory oak, California buckbrush, and some poison ivy are also found along the lower canyon bottom. The 2005 KP wildfire affected several spots along the creek; here regrowth demonstrates plant succession.</p>
<b>Land Ownership</b>	All national forest.
<b>Transportation</b>	Forest Road 55 provides access to upper KP Creek and KP Trail #70. KP Trail follows the first 5 miles of the creek until it climbs out of the canyon to the northeast. North Fork KP Trail #93, Blue Lookout Trail #71, and McKittrick Trail #72 branch from KP Trail along the river segment.
<b>Livestock Grazing</b>	Livestock grazing is not currently authorized in the pastures that encompass the upper half of KP Creek canyon. Winter-only grazing is authorized in the lower half of the canyon in the KP Summer Allotment.
<b>Past Activities</b>	Occasional suppression of wildfires and livestock grazing.
<b>Special Land Uses</b>	Licensed and permitted outfitters and guides conduct hunting and fishing trips along KP Creek. KP Cienega Campground is within ¼ mile of the river segment.
<b>Special Management Designations</b>	Part of KP Creek is within the Blue Range Primitive Area, which is managed as wilderness. A portion of the creek also flows through lands that were included in the 1971 Presidential Recommendation for the Blue Range Wilderness and were identified in the 1987 Forest Plan as potential additions to the Blue Range Primitive Area.
<b>Other</b>	KP Creek and KP Cienega Campground are popular recreation destinations with many summer users and fall hunters from local communities, across the state, and beyond.

# Appendix C – Blue River Fish Barrier Wild and Scenic River Free-Flow Analysis

## BLUE RIVER FISH BARRIER WILD AND SCENIC RIVER FREE-FLOW ANALYSIS

### INTRODUCTION

Agencies involved in native fish recovery efforts in the Gila River Basin have proposed the Blue River watershed for restoration of its important remnant native fishery, as well as repatriation of certain native fishes that historically inhabited the drainage (AFGD et al. 2001). The recent establishment of non-native species in the Gila River basin is a key problem preventing conservation and recovery of the native fauna. Non-native fishes impact native species by predation, competition, hybridization, parasite, and disease. As part of this restoration effort, the USDI Bureau of Reclamation (BOR) in cooperation with the USDA Forest Service (USFS) proposes to construct a fish barrier near the mouth of the Blue River (Figures 1, 2, and 3) to prevent non-native fishes from accessing the upper drainage. Unwanted non-native species would be depleted or eliminated above the barrier by one or a combination of natural attrition, angler harvest, mechanical removal, or piscicide treatments (Marsh and Clarkson 2001).

The Blue River has been found eligible as a potential wild and scenic river. This determination was prepared to evaluate whether the proposed fish barrier would directly and adversely affect the free-flowing character and Outstandingly Remarkable Values (ORVs) and inventoried classification of the river.

### WILD AND SCENIC RIVER ELIGIBILITY

In 1993, the Forest Service conducted a preliminary analysis of rivers on six national forests in Arizona to determine their potential eligibility for inclusion in the National Wild and Scenic River System (National System). This process was requested by the Arizona Congressional delegation, and completed by an interdisciplinary team, who determined that of the rivers analyzed, 57 appeared to meet eligibility requirements of the Wild and Scenic Rivers Act. The Blue River was determined to be free-flowing and possessing one or more ORVs. The lower segment of Blue River, flowing from Smith Place to its confluence with the San Francisco River, received a preliminary classification of "scenic." ORVs for this segment include scenery, recreation, fish, wildlife, riparian, historic and cultural values. In a recent court case on the status of the 57 rivers, the 9<sup>th</sup> Circuit Court of Appeals determined the findings of the 1993 report constituted eligibility (July 7, 2003).

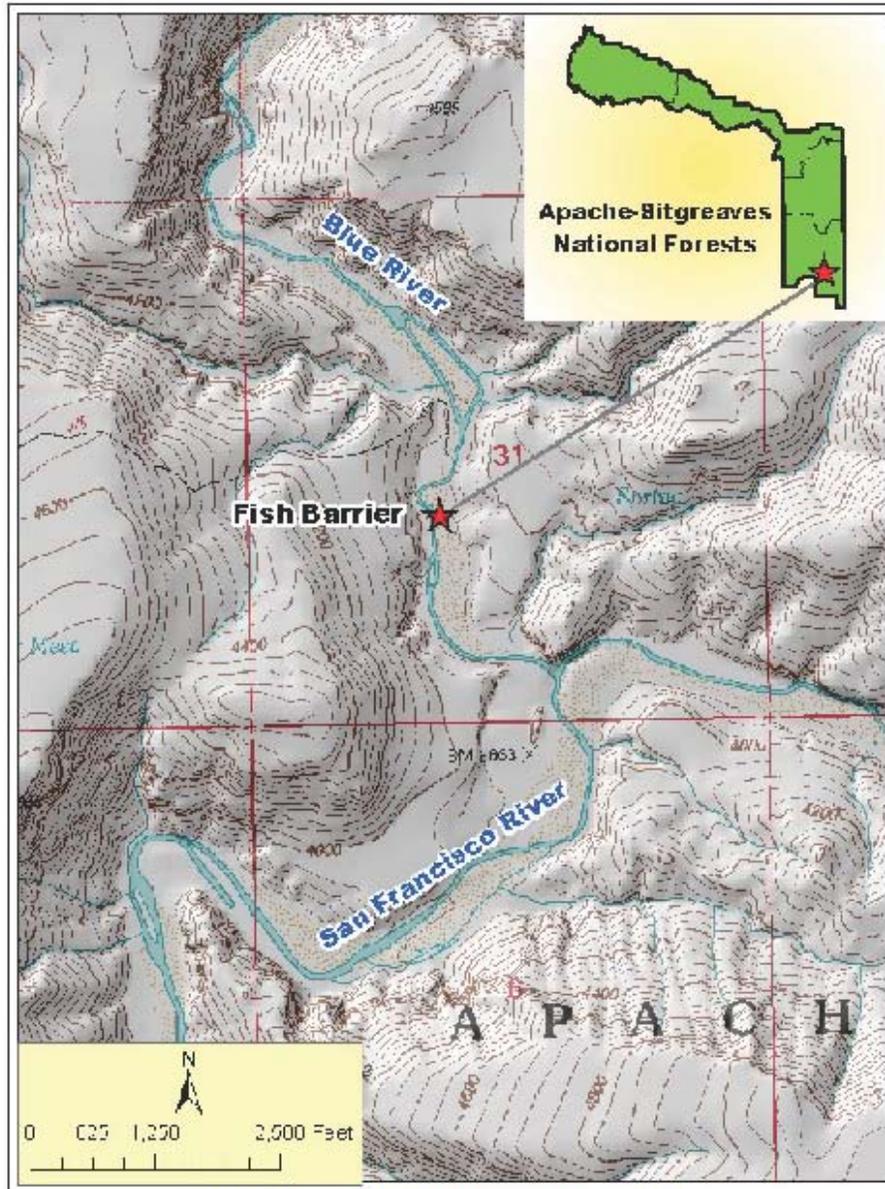


Figure 1: Location of Blue River Fish Barrier Site.

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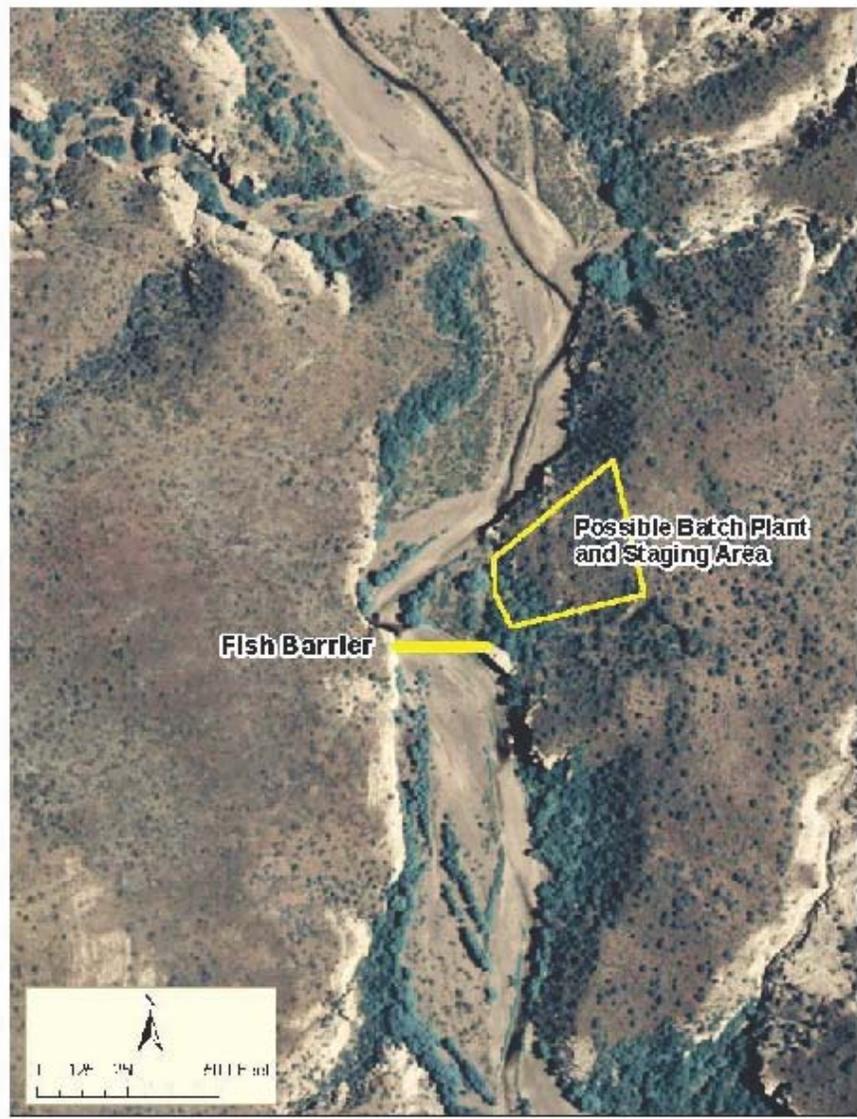


Figure 2: Aerial View of Blue River Fish Barrier Site.



Figure 3: Downstream View of Blue River Fish Barrier Site.



**Figure 4: Aravaipa Fish Barrier that is Similar to the Blue River Barrier Design.**

**PROTECTION OF ELIGIBLE WILD AND SCENIC RIVERS**

Only rivers in the National System or identified by Congress for study under Section 5(a) of the Wild and Scenic Rivers Act are afforded statutory protection. In the case of the Blue River, a river identified by a federal land managing agency for study per Section 5(d)(1) of the Wild and Scenic Rivers Act, protection of the river’s free-flowing character and other values is provided through agency policy. The Forest Service Handbook (FSH 1909.12, 82.5) directs protection in the following ways:

- “To the extent the Forest Service is authorized under law to control stream impoundments and diversions, the free-flowing characteristics of the identified river cannot be modified.
- Outstandingly remarkable values of the identified river area must be protected and, to the extent practicable, enhanced.
- Management and development of the identified river and its corridor cannot be modified to the degree that eligibility or classification would be affected (i.e., classification cannot be changed from wild to scenic or scenic to recreational).”

**ANALYSIS PROCESS**

The Forest Service conducted a free-flow analysis consistent with the management guidelines outlined for an eligible or suitable river in FSH 1909.12, 82.51, using the process developed for evaluation of a designated wild and scenic river (FSM 2354.76). Each of the 10 steps has been addressed in the following table:

EVALUATION CRITERIA	PROJECT DATA
1. Establish Need	Specific management goals and objectives for the Blue River have not yet been formalized through a comprehensive river planning process. The Apache-Sitgreaves Forest Plan (USFS 1987) provides general management direction for native fish, threatened, endangered, and sensitive species, and riparian and aquatic habitat management. The proposed project would help implement some of this management direction, as well as comply with other applicable laws. Section 7(a)(1) of the Endangered Species Act (ESA) directs Federal agencies to use their authorities to carry out programs for conserving threatened and endangered species. Forest Service policy is to recover threatened and endangered species so that special protection measures provided under the ESA are no longer necessary, and to ensure, through appropriate management practices, that nonlisted species do not become threatened or endangered because of Forest Service actions (FSM 2602, 2670). Policy also is to encourage or initiate repatriation of listed species onto suitable unoccupied habitat when such actions promote recovery of the species (FSM 2674). The National Forest Management Act of 1976 (NFMA) (PL 104-333, as amended) requires the Forest Service to provide for the biological diversity of national forests consistent with overall multiple-use objectives of the planning area and to maintain viable populations in the

	<p>planning area.</p> <p>Protection of an eligible river’s free-flowing and other values is provided through agency policy, specifically, FSH 1909.12, 82.5. The analysis contained in this report addresses consistency of the project with this direction.</p> <p>The proposed project is needed to protect and enhance the fish ORV identified for the Blue River (USDA Forest Service 1993b). Currently, non-native fish populations are a threat to native fish populations in the Blue River. Long-term viability is at risk without actions taken to enhance and protect native fish populations.</p>
<hr/> <p><b>2. Define the Proposed Activity</b></p>	
<p><i>Project Proponent</i></p>	<p>Project proponents include the USDI Bureau of Reclamation, USDA Forest Service, USDI Fish and Wildlife Service (FWS), and Arizona Game and Fish Department (AFGD et al. 2001).</p>
<p><i>Purpose and need for the Project</i></p>	<p>The proposed project is part of a larger program being implemented by Reclamation to construct a series of fish barriers within the Gila River basin to prevent non-native fishes and other aquatic organisms from invading high-priority streams occupied by native fishes. This program is mandated by two Fish and Wildlife Service (FWS) biological opinions on impacts of Central Arizona Project (CAP) water transfers to the Gila River basin (FWS 1994 and 2001). The fish barrier construction program is one of several conservation measures intended to assist with recovery of federally listed fishes.</p> <p>Habitat destruction and alteration were the principal causes for declines of native fishes in the American southwest prior to the mid-1900s; however, in the past several decades it has become apparent that the presence of non-native fishes precludes or negates benefits from habitat protection and restoration. Introduction and spread of non-native fishes now is considered the most consequential factor preventing sustenance and recovery of imperiled native fishes in the Gila River basin and other drainages of the southwest.</p> <p>The purpose of the project is to protect the population of threatened loach minnow that reside in the Blue River drainage against future upstream invasions of non-native aquatic organisms. Loach minnow is known to inhabit the entire reach of the Blue River mainstem, some of its tributaries, and portions of the San Francisco River near the confluence. Implementation of the proposed action would meet one of the primary goals of the <i>Loach Minnow Recovery Plan</i> “to protect existing populations of loach minnow and their habitats” (FWS 1990a). The action is also needed to implement a required conservation measure stipulated in the 2001 CAP Biological Opinion.</p> <p>Secondary benefits would accrue from protecting the existing native fish</p>
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<p><i>Geographic location of the project</i></p>	<p>community and securing habitat for reintroduction of threatened spikedace, endangered Gila chub, and roundtail chub. Restoration of sustainable populations of spikedace in suitable habitat within the species' historic range is one of the principal objectives of the <i>Spikedace Recovery Plan</i> (FWS 1990b). Long-term management recommendations for Gila chub include restoration and protection of habitat, protection from non-native fishes, and reintroduction into suitable habitats within the species' historic range (Weedman et al. 1996). Management recommendations for roundtail chub are similar to those identified for Gila chub.</p> <p>Opportunities for restoration of native fishes in the Gila River basin are extremely limited because of the lack of suitable habitat, challenges of controlling or removing firmly established non-native fish populations, and land ownership issues. The Blue River provides a unique opportunity because (1) the constituent elements of suitable habitat exist for several imperiled native fish species, (2) a population of loach minnow already persists within the drainage, (3) non-native warmwater fishes are presently relatively few in both diversity and numbers of individuals, (4) natural bedrock landforms provide solid anchor points for a barrier, and (5) the project area is on public land.</p> <p>The fish barrier would be constructed on the Blue River about 2,500 feet above the confluence with the San Francisco River (Figure 1). The Blue River watershed drains approximately 625 mi<sup>2</sup> of Greenlee and Apache counties, Arizona, and Catron County, New Mexico. Elevations range from approximately 9,340 ft at the drainage divide south of Alpine, Arizona, to approximately 3,650 ft at the confluence with the San Francisco River. The bulk of the watershed is National Forest System lands, although significant private ownership exists primarily along perennial watercourses (AGFD).</p>
<p><i>Duration of the proposed activities</i></p>	<p>Barrier construction would take approximately five months.</p>
<p><i>Magnitude and/or extent of the proposed activities</i></p>	<p>The barrier footprint would be 0.2 acres, spanning 260 feet across the stream. The barrier would be approximately 30 feet wide including the dam, splash apron and downstream revetment. The concrete dam would have a 4-foot drop height (see Figure 4) and would be constructed of materials excavated for the barrier location. The appearance of the barrier can only be mitigated by coloration to fit with the surrounding terrain. It will not be constructed to blend into the surroundings because of the size of the structure. Sediment deposited behind the structure would cover about 6.9 acres extending 2,475 feet upstream.<sup>1</sup> The temporary staging area would be on an upland site within 500 feet of the barrier (Figure 2). The staging area would be on a relatively flat and open shrub land area within the Lower San Francisco Inventoried Roadless Area. A temporary route for moving vehicles between the staging area and barrier site would be bladed. Because there is no road access, a helicopter would be used to transport crews, materials, supplies, vehicles, and equipment to the</p>
<p><sup>1</sup> BOR 2008 Blue River fish barrier post-construction channel aggradation profile and volume estimates.</p>	
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construction site. Examples of construction vehicles a contractor may airlift to the site include excavators, loaders, backhoes, dump trucks, and pickup trucks. Because of the large volume of concrete needed and high cost of air delivery, a temporary batch plant would also be needed on the upland site and outside the 100-year floodplain. About 2.0 acres of upland habitat would be temporarily disturbed.

*Relationship to past and future management activities*

BOR is leading this project to comply with a Biological Opinion from the FWS rendered on the ongoing Central Arizona Project (CAP). The CAP Biological Opinion calls for construction and operation of a single drop-type fish barrier in the Blue River and other specified drainage systems of the Gila River Basin in order to avoid the likelihood that operation of the CAP will jeopardize the continued existence of listed fish species or adversely modify designated critical habitat.

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**3. Describe Whether the Proposed Activity Will Directly Alter Within-Channel Conditions**

*The position of the proposed activity relative to the riparian area and floodplain*

The structure would span the 260-foot wide river channel and floodplain (Figures 2 and 3).

*Any likely resulting changes in:*

*Active channel location*

No change in location of the active channel would be expected due to high rock abutments on both sides of the channel (figure 3). The rock type at the abutments is massive (unfractured) lithic tuff. This tuff is hard to very hard consolidated volcanic ash. It is very unlikely that any erosion would occur around the structure.

*Channel geometry (cross-sectional shape, width/depth characteristics)*

The channel cross-section just above the barrier would eventually conform to the shape of the barrier crest. The barrier design (Figure 4) shows the crest gently sloping from the outer edges downward to a 20-foot wide low-flow notch at the center.<sup>2</sup> The crest has a profile similar to typical upstream cross-sections. The existing low-flow stream channel would shift from the edge to the center of the main channel. The splash apron shape mimics the barrier crest and would have a similar effect on the downstream channel cross-section shape. The barrier would cause only a minor change in the width to depth ratios of base flows and small magnitude flood flows.

*Channel slope (rate or nature of vertical drop)*

The four-foot high barrier would initially impound water creating a pool that would eventually fill with bedload (sediment) transported by a few high flow events. Approximately 15.8 acre-feet of sediment would be deposited behind the barrier and extend 2,475 feet upstream. This sediment deposit would reduce the channel slope from 0.9 percent to about 0.7 percent.<sup>3</sup> The water surface elevation of baseflows and small magnitude flood flows would be permanently raised at and for a short distance above the barrier.

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<sup>2</sup> BOR 2007 draft Blue River fish barrier plan and elevation drawings.

<sup>3</sup> BOR 2008 Blue River fish barrier post-construction channel aggradation profile and volume estimates.

Stream gradient below the barrier would not change because the bottom splash apron and revetment elevation would be installed at the existing streambed elevation. The splash apron and revetment would prevent any bottom scouring that could change the downstream channel slope.

*Channel form (straight, meandering, or braided)*

The barrier would cause minimal changes to channel form because the stable rock banks on both sides of the barrier would contain the channel (Figures 2 and 3). Stream morphology above and below the barrier site during high flows is classified as a D4 stream type (Rosgen 1996). This is based on a stream geomorphology assessment conducted upstream on the Blue River (Thornton 2005) and cross-section measurements near the barrier (BOR 2006). "D4" type streams are dominated by gravel-sized material and are wide and shallow with multiple channels that typically result from high sediment supply, often from unstable eroding banks. During lower flows, the active stream channel is a series of pools and riffles and tends to resemble a "C" type stream. The high flow channel and floodplain 2,200 feet upstream of the barrier is a 500-foot wide sparsely vegetated gravel bed with multiple dry channels. Here the width to depth ratio exceeds 40 which is characteristic of "D" type channels (Figure 2). The channel narrows to 270 feet at the barrier site where it is constrained by large rock features on each bank. These outcroppings control channel form in the vicinity of the proposed barrier and confine flood flows to a narrower channel. The channel widens to 390 feet about 600 feet downstream of the barrier site (Figure 2).

*Relevant water quality parameters (turbidity, temperature, nutrient availability)*

Arizona sets narrative and numeric surface water standards for water quality based on the uses people and wildlife make of the water. The Arizona Department of Environmental Quality (ADEQ) reported in the 2004 Arizona Integrated 305 (b) Assessment and 303 (d) Listing Report<sup>4</sup> that the reach of Blue River between Juan Miller crossing and the San Francisco River attained surface water quality standards for all designated uses: full body contact (FBC), fish consumption (FC), agricultural livestock watering (AgL), crop irrigation (Agl), and warmwater aquatic community (A&Ww). The draft 2006 Integrated 305 (b) Assessment and 303 (d) Listing Report lists the lower 25-mile reach of Blue River as impaired because of elevated *E. coli* levels. No Unique Waters as classified by ADEQ are located in the project area.

Surface water quality regarding turbidity in the lower reach of the Blue River has been rated as "exceptional" (ADEQ 2001). Turbidity measurements in the lower reach taken between 1992 and 2001 were consistently less than 10 NTU. During construction at periods of low water, turbidity impacts to the river would likely be small and minimized through application of Best Management Practices and requirements under the 404 and other permits obtained for the project. Once construction is completed, the fish barrier would have no effect on river water quality.

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<sup>4</sup> <http://www.azdeq.gov/envirom/water/assessment/2004.html>

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**4. Describe How The Proposed Activity Will Directly Alter Riparian and/or Floodplain Conditions**

*The position of the proposed activity relative to the riparian area and floodplain* Barrier construction activities would be mostly within the river channel and floodplain. Heavy equipment moving between the upland staging area and barrier site (figure 3) would create temporary routes in the riparian area (less than 200 feet).

*Any likely changes in:*

*Vegetation composition, age structure, quantity, or vigor* Riparian vegetation within the active floodplain is sparse, with clumps of seep-willow, narrow leaf cottonwood, Fremont cottonwood, Arizona sycamore, alder, grasses and forbs (Figure 2 and 3) (USFS 1993b). Riparian plant cover would be cleared from up to 1.5 acres because of proposed barrier construction. The material aggraded above the barrier would inundate another 1.0 acres of riparian vegetation.<sup>5</sup> Sediment deposition would eventually elevate the floodplain relative to the barrier height. Equipment and vehicles would be cleaned before being airlifted to the site to avoid introducing noxious weeds. Except for the barrier footprint, vegetation would begin to recover on disturbed and deposition areas shortly after the channel and floodplain adjusts to the new barrier.

*Relevant soil properties such as compaction or percent bare ground* The project area is in the TS18 soils mapping unit, termed the Graham-Lampshire-House Mountain Association. This association consists of shallow, gravelly and cobbly, medium to fine textured soils and rock outcrops on volcanic hills and mountains (Hendrick 1985). Floodplain substrates consist of alluvial deposits of sand, gravel, and cobble eroded from the surrounding highlands. This loose alluvial material is not prone to compaction.

*Relevant floodplain properties such as width, roughness, bank stability, or susceptibility to erosion* Project activities would not affect floodplain properties because it is confined by in a steep-sided valley composed mostly of unfractured lithic tuff (Figure 2 and 3).

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**5. Describe How the Proposed Activity Will Directly Alter Upland Conditions**

*The position of the proposed activity relative to the uplands* Most construction activities would occur in the river channel. However, an upland site just east of the barrier (Figure 2) would be used for staging of vehicles, equipment, materials, batch plant, helipad, and construction crew camping.

*Any likely resulting changes in:*

*Vegetation composition, age structure, quantity, or vigor* Common plants on the upland flats include scattered juniper, pinyon pine, oaks, mountain mahogany, buckbrush, desert ceanothus, grey oak, Wright's silktassel, and manzanita interspersed with perennial grasses (USFS 1993b). Upland plant cover would be cleared, cut, or trampled on

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<sup>5</sup> GIS was used to measure acres within approximate disturbed area boundaries overlaid on high-resolution aerial imagery.

<p><i>Relevant soil properties such as compaction or percent bare ground</i></p>	<p>up to 2.0 acres because of proposed construction activities. Vegetation would also be disturbed on a short vehicle route (&lt; 500 feet) between the staging area and construction site. The system for conveying concrete between the upland batch plant and the barrier would result in additional vegetation disturbance. Immediately after construction was completed, the disturbed upland area and access route would be regraded to original contours and ripped to promote revegetation. Weed control measures would also be carried out prior to and following construction. Disturbed areas may be reseeded with native material. The upland plant community would eventually recover to natural conditions.</p>
<p><i>Relevant hydrologic properties such as drainage patterns or the character of surface and subsurface flows</i></p>	<p>Upland soils are formed in residuum weathered from basalt, ash-tuff, and other related volcanic rocks. Disturbed upland soils would be regraded and ripped as needed to reduce compaction to promote revegetation and reduce soil erosion.</p>
<p><i>Potential changes in upland conditions that would influence archeological, cultural, or other identified significant resource values</i></p>	<p>There would be no impact on upland drainage patterns or the character of upland surface and subsurface flows.</p>
<p><i>Potential changes in upland conditions that would influence archeological, cultural, or other identified significant resource values</i></p>	<p>Much of the river corridor, including the fish barrier site, is uninventoried for heritage resources. The Blue River was a major perennial water source for the prehistoric Mogollon culture. Their traditional homeland encompassed the vast area bisected by the Blue River. During prehistoric times the river corridor provided all life-sustaining resources including hunting, wild resources, reliable water for agriculture, building materials, and suitable locations for habitation sites. Historic sites along the Blue River are associated primarily with early cattle ranching (USFS 1993b).</p>
<p><i>Potential changes in upland conditions that would influence archeological, cultural, or other identified significant resource values</i></p>	<p>The fish barrier site and adjacent construction staging area have not been surveyed for archeological resources. To ensure that adequate consideration and protection are accorded potential archeological resources, archeological surveys would precede any ground-disturbing activities in the project area. Impacts on any significant archeological resources found in the project area that could not be avoided by redesign would be mitigated through data recovery. A data recovery plan would be developed in consultation with the Arizona state historic preservation officer and the Advisory Council on Historic Preservation, and the data recovery would be completed before construction to ensure that the information significance of the sites would be preserved. As a result of the data recovery, such impacts would not be considered adverse, which is in accordance with the <i>Regulations of the Advisory Council on Historic Preservation Governing the Section 106 Review Process</i> (36 CFR 800.9C, Criteria of Effect and Adverse Effect).</p>
<p><b>6. Evaluate and Describe How Changes in On-Site Conditions Can/Will Alter Existing Hydrologic or Biologic Processes</b></p>	
<p><i>The ability of the channel to</i></p>	<p>These abilities would not be impacted. High rock abutments and steeply</p>
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<i>change course, re-occupy former segments, or inundate its floodplain</i>	sloping canyon wall confine the river valley in much of the project area (Figures 2 and 3). This would prevent the channel from changing course or reoccupying former segments. These rock formations would remain in place with construction of the barrier. No former channel segments are present. The ability of the channel to inundate its floodplain would not be affected except by an increase in water surface elevation that decreases with distance upstream of the barrier and with increasing magnitude of flood flows.
<i>Streambank erosion potential, sediment routing and deposition, or debris loading</i>	The project would not affect streambank erosion potential because they are composed mostly of bedrock and boulders. Sediment deposition up to the level of the barrier is expected to occur in a relatively short period. <sup>6</sup> Once sediment has deposited behind the barrier, the barrier would have little or no effect on sediment routing and deposition.
<i>The amount or timing of flow in the channel</i>	No change is expected.
<i>Existing flow patterns</i>	No change is expected.
<i>Surface and subsurface flow characteristics</i>	There would be a small increase in water surface elevation at and above the barrier. The increase in water surface elevation would decline with increasing distance upstream and with increasing magnitude of stream flows.  Flow in the Blue River can be completely subsurface with a dry streambed during summer months and where deep coarse sediments are present (Thornton 2005). The depth of the alluvial deposit at the barrier site exceeds 60 feet, thus there probably is substantial subsurface flow. The barrier footers would be buried about 18 feet below the existing stream bed elevation and extend across the whole channel. <sup>7</sup> The barrier footers could potentially force some subsurface flow to the surface, but the change in surface and subsurface flows would be minor.
<i>Flood storage (detention storage)</i>	Initially the four-foot high barrier would store less than 10 acre-feet of water. This volume of storage would occur as soon as the structure is completed and diminish as it fills with sediment. No additional storage would occur during flood events.
<i>Aggradation/degradation of the channel</i>	The channel would aggrade by four to five feet at the barrier. Depth of aggradation would decrease with distance upstream from the barrier. The deposit would extend about 2,475 feet upstream of the barrier. <sup>8</sup> The downstream splash apron and riprap would dissipate stream energy reducing the potential for scour. Thus, degradation downstream of the barrier is not expected.

<sup>6</sup> For a similar project on Aravaipa Creek in Arizona, sediment completely aggraded to the top of two fish barriers within a year after normal high flows and one flood event.

<sup>7</sup> BOR draft Blue River fish barrier typical cross section.

<sup>8</sup> BOR 2008 Blue River fish barrier post-construction channel aggradation profile and volume estimates.

*Biological processes such as:*

*Reproduction, vigor, growth and/or succession of streamside vegetation*

See riparian discussion above.

*Nutrient cycling*

Nutrient cycling would be temporarily increased in the pool formed above the barrier where small organic material, such as leaves, would be trapped. Macroinvertebrates and other small organisms feeding on this material would also increase for a short period.

*Fish spawning and/or rearing success*

Excluding non-natives through construction of the fish barrier would reduce predation on and competition with natives, allowing the native fish ORV to be protected and enhanced. Movement of any existing native and additional non-native species from the San Francisco River would be excluded from migrating into the Blue River above the barrier. Until proposed mechanical removal of existing non-natives is implemented in the lower and middle portions of the mainstem Blue River, the current low levels of non-native fishes will continue to be present. Other than upstream migration blockage, the expected on-site conditions created by the barrier are not expected to interfere with native fish spawning or rearing. Native species in the Blue River project area include Sonora sucker, speckled dace, longfin dace, desert sucker, and loach minnow. Their short term survival does not depend on being able to migrate above the barrier site. The barrier could lead to long-term genetic changes in these species, due to isolation from downstream populations, which could be alleviated through direct management intervention (movement of native fish upstream by humans). The presence of the barrier is considered more desirable than extinction through predation and competition of non-native fishes such as flathead catfish, rainbow trout, red shiner, and smallmouth bass.

*Riparian dependent avian species*

Riparian habitat along the Blue River is suitable for the federally-listed southwestern willow flycatcher. These birds typically breed in patchy to dense riparian habitats along streams (USFWS 2002). This habitat would also be suitable for the yellow-billed cuckoo, a candidate species for federal listing. This species typically nests in tall cottonwood and willow riparian woodland. The riparian vegetation at the barrier site is sparse (Figure 3) and provides negligible nesting habitat for the flycatcher, cuckoo, and other bird species. Because only a small amount of riparian vegetation would be lost or disturbed, the effects on bird populations would be negligible.

*Riparian dependent mammals*

Because the four-foot high fish barrier would be positioned between two steep sided rock outcroppings, it could block passage for small mammals that may use the riparian zone as a travel corridor.

*Amphibian/reptile/mollusk needs* Removal of non-native fish and installation of a barrier to keep non-natives from reinvading upstream reaches would benefit amphibians sensitive to predation, including the federally-listed Chiricahua leopard frogs that occur in the drainage. About 53 miles of stream would be improved for native amphibians. The project area is within the known range of Sonoran mud turtles. If mud turtles are present in the lower Blue River, the barrier and steep rock abutments could block upriver passage and potentially isolate upstream turtles. No mollusks have been documented in the lower reaches of the Blue River.

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**7. Estimate the Magnitude and Spatial Extent of Potential Off-Site Changes**

*Consider and document:*

*Changes that influence other parts of the river system* As described above, the four-foot high barrier would capture sediment depositing upstream about 2,475 feet. This deposition would cause a slight change in stream gradient and temporarily affect riparian vegetation.

*The range of circumstances under which off-site changes might occur (for example, as may be related to flow frequency)* The barrier would not affect flow frequencies or cause other off-site changes.

*The probability or likelihood that predicted changes will be realized* The predicted changes would likely occur.

*Specify process involved, such as water and sediment, and the movement of nutrients* The magnitude and spatial extent of potential off-site changes (or indirect changes) caused by the proposed activity are expected to be insignificant compared to the dynamics of the Blue River (i.e., sediment, water and nutrient movements). The staging area and access routes would have a minor effect on surface runoff until these disturbed areas are obliterated or otherwise rehabilitated.

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**8. Define the Time Scale over Which Steps 3-7 are Likely to Occur**

Construction of the barrier would take up to five months. It should take less than a year for sediment deposition and channel adjustment above the barrier.<sup>9</sup> This estimate is based on the large amount of sediment stored in the upstream channel and the relatively high frequency of weather and storm events that generate high flows capable of transporting sediment.

Riparian vegetation recovery would take more than a year. The staging area and access route would create a two acre upland opening. Native grasses would begin to recover on this opening within about a year after the upland staging area and access routes are obliterated. Trees and shrubs

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<sup>9</sup> For a similar project on Aravaipa Creek in Arizona, sediment completely aggraded to the top of two fish barriers within a year after normal high flows and one flood event.

would be much slower to reestablish. However, once ground vegetation reestablishes, the created opening would blend with the surrounding open woodland and not be noticeable to most observers.

Recovery of the native fish and amphibian populations in the Blue River would begin after non-native fish are removed. Non-native fish could be removed immediately after the barrier is completed, but could take longer depending on the approval process and funding. Techniques for removal could include both mechanical (electro-shocking) and chemical (antimycin and/or rotenone).

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**9. Compare Project Analyses to Management Goals**

The project would implement, in part, some of the goals, objectives, policies, and implementation actions identified in the Forest Plan, and Forest Service Manual and Handbook direction for protecting native fish and wildlife. It would also comply with the ESA that requires federal agencies to use their authorities to carry out programs for conservation of endangered and threatened species.

Overall, there would be little to no effects to riparian or floodplain conditions or timing of free flow. The free-flowing character would be permanently modified and water quality would be maintained except for very short-term impacts associated with barrier construction. Management actions for native fish and wildlife ORVs would be carried out to enhance and protect 53 miles of habitat from the barrier to the headwaters of Campbell Blue Creek. Other ORVs would not be impacted.

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**10. Make Section 7 Determination**

*The effects of the proposed activity on conditions of free-flow, including identification of any proposed measures to minimize those effects*

Based on the definition of “free-flow” in the Wild and Scenic Rivers Act, the proposed fish barrier would affect free-flow character because it would modify the waterway. BOR designed the barrier to maintain the free-flowing characteristics of the Blue River to the extent practicable. BOR also evaluated other barrier locations upstream, but dismissed them from further analysis because the proposed location would help restore the most native fish habitat and was most likely to be successful in preventing non-native fish from reentering the stream (BOR 2005). BOR also dismissed a downstream site because it was within the floodplain of the San Francisco River where high water could potentially allow fish to pass over a reasonably sized barrier. In other words, the proposed design and location of the fish barrier would provide the greatest enhancement and protection of the fish ORV of the Blue River while minimizing effects on its free-flowing character.

*Any direct and adverse effects on the outstandingly*

The documentation for ORV’s determined in 1993 is very brief for scenic, recreation, and riparian values, and outdated for fish and wildlife values.

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*remarkable and other significant resource values for which the river was designated or is being studied*

**Scenery** – There are no established viewpoints from where the barrier could be seen. The lower 20 miles of the Blue River is a wide, gravel and cobble dominated stream bed that lacks large channel spanning bedrock and boulder features. Placing a concrete fish barrier across this wide sparsely vegetated channel would appear to be an unnatural feature. However, the barrier would be relatively unobtrusive because the apron, face, and crest concrete would be integrally colored to blend with surrounding rock features. Water falling over the barrier would also help mask part of the structure.

**Recreation** – In 1993 the recreation values were identified as hunting, horseback riding, hiking, fishing, and advanced canoeing (during high flows) with low to moderate overall recreational use. There is no further elaboration that describes the outstanding value of the recreation. The Blue River watershed is partially within the Blue Range Primitive Area, but the proposed barrier is not within the primitive area. The barrier could partially block river access, requiring some people to find an alternate route around the barrier and outside the channel. Recreationists choosing not to climb over the barrier could easily hike out of the channel through moderate terrain a short distance above or below the barrier. This would be a slight inconvenience for hikers, but would be greater for canoeists.

**Fish and Wildlife** – As described above, this project would have a beneficial effect on federally-listed fish populations native to this drainage. The project would also have a positive effect on amphibians and negligible effect on birds. The barrier could block some wildlife movement up and down the river corridor and potentially have a negative effect on some small mammals and Sonoran mud turtles.

**Riparian** – As described above, this project would disturb up to 2.5 acres of sparse riparian vegetation. Except for the 0.2 acre barrier footprint, this would be a short-term effect. Native riparian plant cover is expected to begin recovering shortly after the floodplain adjusts to the new stream channel elevation above the barrier.

**Historic and Cultural Resources** – As described above, the project area has not been surveyed for historic or cultural resources. The project area would be surveyed before construction begins and steps taken to ensure that historic and cultural resources are not adversely affected.

### **CONCLUSION**

**This project would prevent non-native fishes from invading the Blue River, enhancing and protecting native fishes including federally-listed species. As a result, it would have a beneficial effect on the biological Outstandingly Remarkable Values. The USDA Forest Service concludes that the proposed action would cause a change in the free-flow character and affect scenery values. The full analysis and final approval of the proposed water resources project shall be made in compliance with NEPA.**

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# Appendix D – Management Direction

This appendix includes management direction and guidance that applies to the study corridors from the following sources:

- Forest Service Handbook 1909.12 – Land Management Planning Handbook, Chapter 80: Wild and Scenic River Evaluation (January 31, 2006)
- Apache-Sitgreaves National Forests Plan, 1987, as amended 2006, 2008, and 2009
- Additional law, regulation, and policy
- Cooperative plans

## **Interim Management of Eligible or Suitable Rivers – FSH 1909.12, Sections 82.5 and 82.51**

Interim management applies after a river is found eligible or suitable but before designation in the NWSRS and the subsequent development of a comprehensive river management plan. Direction for interim management for National Forest System lands ensures that eligible or suitable rivers remain free flowing and the outstandingly remarkable values are afforded adequate protection, subject to valid existing rights. Affording adequate protection requires sound resource management decisions based on National Environmental Policy Act (NEPA) analysis. Protective management may be initiated by the administering agency as soon as eligibility is determined.

## **Forest Service Handbook 1909.12, Chapter 80 (effective January 31, 2006)**

### **82.5 – Interim Management of Eligible or Suitable Rivers**

During interim management of eligible or suitable rivers, the following management guidelines are to be used when carrying out projects and activities for the National Forest System for each of the river classifications in this section.

Legislatively mandated study rivers as defined in section 5(a) of the Wild and Scenic Rivers Act of October 2, 1968 (act), are afforded statutory protection under the act, including section 7(b), water resources projects; section 8(b), land disposition; section 9(b), mining and mineral leasing; and section 12(a), management policies. Protection of Forest Service identified study rivers (sec. 5(d)(1) of the act) derives from other existing authorities (such as the Clean Water Act, Endangered Species Act, and Archeological Resources Protection Act).

To the extent the Forest Service is authorized by statute, a responsible official may authorize site-specific projects and activities on NFS lands within river corridors eligible or suitable only where the project and activities are consistent with all of the following:

1. The free-flowing character of the identified river is not modified by the construction or development of stream impoundments, diversions, or other water resources projects.
2. Outstandingly remarkable values of the identified river area are protected.
3. For all legislatively mandated study rivers, classification must be maintained as inventoried until the study report is received by Congress and for the protection period specified in the act, even if the study report recommends managing the river at a less restrictive class (such as from wild to scenic or scenic to recreational).

4. For all Forest Service identified study rivers, classification must be maintained as inventoried unless a suitability study (decision) is completed that recommends management at a less restrictive classification (such as from wild to scenic or scenic to recreational).

### **82.51 – Management Guidelines for Eligible or Suitable Rivers**

The following guidelines apply to interim management of eligible or suitable rivers and responsible officials should apply these on NFS lands or where the Forest Service holds an interest on non-Federal lands such as rights acquired through scenic or access easements to protect river values. These guidelines may be applied to interim management of wild and scenic rivers governed by the specific language in sections 7(a), water resources projects; 8(a), land disposition; 9(a), mining and mineral leasing; and 12(a), management policies (FSM 2354).

The following protection guidelines shall be continued until a decision is made on future use of the river and adjacent lands. Section 5(a) study rivers shall be protected, as directed in sections 7(b), 8(b), 9(b), and 12(a) of the act for the period specified in section 7(b). The protection period is 3 years from the date the study report is transmitted to Congress. The protection necessary to maintain a section 5(d)(1) study river as a potential wild and scenic river may be modified or discontinued for identified rivers upon a finding of ineligibility or nonsuitability. (See the review and approval process in FSH 1909.12, section 84.)

A responsible official may authorize site-specific projects and activities on NFS lands within river corridors eligible or suitable where the project and activities are consistent with the following:

1. Water Resources Projects (Water Supply/Flood Control)

Wild, Scenic, Recreational. Development of water supply dams, diversions, flood control works, and other water resources projects on a section 5(a) study river shall be analyzed under section 7(b) of the act. A water resources project is defined in Title 36, Code of Federal Regulations part 297 (36 CFR part 297) as the construction of developments that affect the river's free-flowing characteristics. Water resources projects determined to have a direct and adverse effect on river values (free-flow, water quality, and outstandingly remarkable values) under section 7(b) are prohibited. Water resources projects proposed on a section 5(d)(1) study river are not subject to section 7(b), but will be analyzed as to their effect on a river's free-flow, water quality, and outstandingly remarkable values, with adverse effects prevented to the extent of existing agency authorities (such as special use authority).

2. Hydroelectric Power

Wild, Scenic, Recreational. Development of hydroelectric power facilities is not allowed on or directly affecting a section 5(a) study river. This provision of section 7(b) of the act is interpreted as a prohibition of new hydroelectric facilities within the study boundary. Section 5(d)(1) study rivers found eligible are to be protected pending a suitability determination. Protect section 5(d)(1) study rivers found suitable for inclusion in the National Wild and Scenic Rivers System (National system) for their free-flowing condition, water quality, and outstandingly remarkable values.

### 3. Minerals

#### a. Wild

- i. Locatable. Subject to valid existing rights, mining claims are prohibited within 1/4 mile of a section 5(a) study river under section 9(b) of the act. Existing mining activity on a section 5(a) study river and existing or new mining activity on a section 5(d)(1) study river are subject to regulations in 36 CFR part 228 and shall be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.
- ii. Leasable. Leases, licenses, and permits under mineral leasing laws are subject to conditions necessary to protect the values of the river corridor in the event it is subsequently included in the National system.
- iii. Salable. Disposal of salable mineral material is prohibited to protect river values.

#### b. Scenic, Recreational

- i. Locatable. Subject to valid existing rights, mining claims are prohibited within 1/4 mile of a section 5(a) study river under section 9(b) of the act. Existing mining activity on a section 5(a) study river and existing or new mining activity on a section 5(d)(1) study river are subject to regulations in 36 CFR part 228 and must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.
- ii. Leasable. Leases, licenses, and permits under mineral leasing laws would be subject to conditions necessary to protect the values of the river corridor in the event it is subsequently included in the National system.
- iii. Salable. Salable mineral material disposal is allowed if the values for which the river may be included in the National system are protected.

### 4. Transportation System

- a. Wild. New roads are not generally compatible with this classification. A few existing roads leading to the boundary of the river corridor may be acceptable. New trail construction should generally be designed for nonmotorized uses. However, limited motorized uses that are compatible with identified values and unobtrusive trail bridges may be allowed. New airfields may not be developed.
- b. Scenic. New roads and railroads are permitted to parallel the river for short segments or bridge the river if such construction fully protects river values (including the river's free-flowing character). Bridge crossings and river access are allowed. New trail construction or airfields must be compatible with and fully protect identified values.
- c. Recreational. New roads and railroads are permitted to parallel the river if such construction fully protects river values (including the river's free-flowing character). Bridge crossings and river access are allowed. New trail construction or airfields must be compatible with and fully protect identified values.

5. Utility Proposal

- a. Wild, Scenic, Recreational. New transmission lines such as gas lines, water lines, and so forth are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, the project shall be evaluated as to its effect on the river's outstandingly remarkable values and classification. Any portion of a utility proposal that has the potential to affect the river's free-flowing character shall be evaluated as a water resources project.

6. Recreation Development

- a. Wild. Major public use areas such as large campgrounds, interpretive centers, or administrative headquarters should be located outside the river corridor. Minimum facilities may be provided in keeping with the essentially primitive character. If sanitation and convenience facilities are necessary, locate them at access points or at a sufficient distance from the riverbank so that they are not visible from the river. Prevent impacts to water quality and other identified river values.
- b. Scenic. Public use facilities such as moderate size campgrounds, simple sanitation and convenience facilities, public information centers, administrative sites, or river access developments and so forth are allowed within the river corridor. All facilities shall be located and designed to harmonize with their natural and cultural settings, protect identified river values including water quality, and be screened from view from the river to the extent possible.
- c. Recreational. Recreation, administrative, and river access facilities may be located in close proximity to the river. However, recreational classification does not require extensive recreation development. All facilities shall be located and designed to harmonize with their natural and cultural settings, protect identified river values including water quality, and be screened from view from the river to the extent possible.

7. Motorized Travel

- a. Wild. Motorized travel on land or water may be permitted, but is generally not compatible with this classification.
- b. Scenic, Recreational. Motorized travel on land or water may be permitted, prohibited, or restricted to protect the river's values.

8. Wildlife and Fish Projects

- a. Wild. Construction of minor structures and vegetation management to protect and enhance wildlife and fish habitat should harmonize with the area's essentially primitive character and fully protect identified river values. Any portion of a wildlife or fisheries restoration or enhancement project that has the potential to affect the river's free-flowing character shall be evaluated as a water resources project.
- b. Scenic. Construction of structures and vegetation management to protect and enhance wildlife and fish habitat should harmonize with the area's largely undeveloped character and fully protect identified river values. Any portion of a wildlife or

fisheries restoration or enhancement project that has the potential to affect the free-flowing character shall be evaluated as a water resources project.

- c. Recreational. Construction of structures and vegetation management to protect and enhance wildlife and fish habitat should fully protect identified river values. Any portion of a wildlife or fisheries restoration or enhancement project that has the potential to affect the river’s free-flowing character shall be evaluated as a water resources project.
9. Vegetation Management
- a. Wild. Cutting of trees and other vegetation is not permitted except when needed in association with a primitive recreation experience such as to clear trails or to protect users or the environment, including wildfire suppression. Prescribed fire and wildland fire use may be used to restore or maintain habitat for threatened, endangered, or sensitive species and/or restore the historic range of variability.
  - b. Scenic, Recreational. A range of vegetation management and timber harvest practices are allowed, provided that these practices are designed to protect, restore, or enhance the river environment, including the long-term scenic character.
10. Domestic Livestock Grazing
- a. Wild. Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which a river was found eligible or suitable, including the area’s essentially primitive character.
  - b. Scenic. Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which a river was found eligible or suitable, including the area’s largely undeveloped character.
  - c. Recreational. Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which a river was found eligible or suitable.

## **The Apache-Sitgreaves National Forests Land and Resource Management Plan (Forest Plan)**

As noted in the “Purpose and Need” in chapter 1, the Apache-Sitgreaves National Forests’ forest plan provides the following direction:

*“Study the mainstem of the Blue River from its confluence with the San Francisco River upstream to its confluence with McKittrick Creek in the Blue Range Primitive Area as a candidate stream for eligibility in the Wild and Scenic River System. Timber harvesting and new road construction are prohibited in the potential wild and scenic river corridor: one-quarter mile each side of the stream. Also, consistent with any outstanding rights, dams, diversions, or other water resource developments are also prohibited until the study is completed. The*

*study will be completed by 1994. (Amendment 2 June 1990, Replacement page 44-2).”*

The eligibility study was completed in 1993 and updated in 2009.

The public lands within the eligible river segments are currently managed in accordance with the ASNFs forest plan. Each segment includes one or more management area allocations with goals and objectives that direct the uses and activities permitted on that land.

The acres and percent of land in each management area are displayed in table 29. Much of the lands in the corridor are inaccessible by motorized means and are managed to protect wilderness values (Management Area 8).

**Table 29. Management area acreage by segment (National Forest System lands only)**

Eligible Segment and Tentative Classification	Management Area Acreage					
	1	2	3	4	8	18
BR-1 — Recreational	570	1,952	764		3,891	
BR-2 — Wild					3,922	1,033
BR-3 — Scenic		69				1,203
BR-4 — Wild		1,179	1,024			135
KP Creek — Wild	220			113	3,253	
Total Corridor Acres by Management Area	790	3,200	1,788	113	11,066	2,371
Percent of Total Acres by Management Area	4%	17%	9%	1%	57%	12%

Table 30 lists the percent of management areas in each segment. A general description of the management emphasis associated with each management area follows table 30.

**Table 30. Management areas in eligible segments (percent acreage)**

Segment	Management Areas	Approximate Percent of Segment
Blue River-1 <sup>a</sup>	MA-1 Forest Land	8%
	MA-2 Woodland	27%
	MA-3 Riparian	12%
	MA-8 Primitive Area	53%
Blue River-2	MA-8 Primitive Area	79%
	MA-18 Sandrock Special MA	21%

Segment	Management Areas	Approximate Percent of Segment
Blue River-3	MA-2 Woodland	5%
	MA-18 Sandrock Special MA	95%
Blue River-4	MA-2 Woodland	51%
	MA-3 Riparian	44%
	MA-18 Sandrock Special MA	5%
KP Creek	MA-1 Forest Land	6%
	MA-4 Mountain Grass	3%
	MA-8 Primitive Area	91%

<sup>a</sup>Blue River segment 1 study corridor encompasses 17 percent private lands; all other segments are entirely Federal lands

### Management Area 1 — Forest Land

Emphasize a combination of multiple uses including a sustained yield of timber and firewood production, wildlife habitat, livestock grazing, watershed, and dispersed recreation. Manage for timber production using integrated resource management to achieve diverse stands protected from losses due to insects or diseases exceeding endemic levels. Visual quality levels are generally modification, partial retention, and retention. Maximum modification is allowed to manage insect or disease outbreaks or to harvest fire-killed timber.

### Management Area 2 — Woodland

Emphasize firewood production, wildlife habitat, watershed condition, and livestock grazing. Other resources are managed in harmony with the emphasized resources.

### Management Area 3 — Riparian

Riparian areas, with their high productivity and diversity, are a limited and critical ecological resource. In addition to having high timber, range, recreation, and cultural values, riparian areas are vital to the quantity and quality of habitats for fish and some wildlife species, and are basic to the hydrologic function of watersheds. Other resource uses and activities may occur to the extent that they support or do not adversely affect riparian dependent resources. (Forest Plan, p. 121)

Identify capacity for recreation in each riparian area. The objective for each riparian area should be maximum possible recreation use while protecting or enhancing the riparian characteristics of each site. (Forest Plan, p. 123)

Recreation use, including off-road vehicle use, will be prohibited or restricted and sites rehabilitated in areas in unsatisfactory condition when recreation was a significant causative factor affecting condition. (Forest Plan, p. 124)

### Management Area 4 — Mountain Grass

Emphasize wildlife habitat and visual quality, especially big game winter range. (Forest Plan, p. 128)

Manage recreation use at less than standard levels. (Forest Plan, p. 128)

### **Management Area 8 — Primitive Area**

Emphasize wilderness recreation while maintaining wilderness resource values. (Forest Plan, p. 141)

### **Management Area 18 — Sandrock**

Emphasize the recovery of this critical watershed. In addition, emphasize management of the loach minnow (*Tiaroga cobitus*) and Black hawk (*Buteogallus anthracinus*). No vegetative management practices are planned in this management area.

## **ASNFs Forest Plan — Applicable Resource Direction**

### **Water Resources**

**Riparian:** Improve vegetation condition in riparian areas. This is an emphasis area for the plan. Improvements will be accomplished by reducing or, in some cases, eliminating adverse impacts from grazing, vehicles, and overuse by man.

**Soil and Water:** Maintain, or where needed, enhance soil productivity and watershed condition. Put all areas in a satisfactory watershed condition by 2020. Maintain a high quality sustained water yield for forest users and others. Identify and protect wetlands and flood plains.

### **Recreation**

Manage the recreation resource to provide opportunities for a wide variety of developed and dispersed experiences. Provide for developed site and dispersed visitor use. (Forest Plan p. 14)

### **Forestwide Standards and Guidelines**

The forest plan directs that Blue River be studied from “the main stem of the Blue River from its confluence with the San Francisco River upstream to its confluence with McKittrick Creek in the Blue Range Primitive Area as a candidate stream for eligibility in the Wild and Scenic River System. Timber harvesting and new road construction are prohibited in the potential wild and scenic river corridor; one-quarter mile each side of the stream. Also, consistent with any outstanding rights, dams, diversions, or other water resource developments are also prohibited until the study is completed.” (Forest Plan, p. 30)

Manage to ensure the maintenance of the existing diversity of recreation opportunities, settings and activities. (p. 31)

The following variations in the actual (recognizing probable mapping errors of existing classifications) recreation opportunity spectrum (ROS) classes are acceptable:

- Primitive: No Change
- Semiprimitive Nonmotorized: +5%
- Semiprimitive Motorized: +10%

- Roded Natural: +15%
- Rural: +15%

On the Sitgreaves National Forest, acres of semiprimitive classes in virgin timber stands will be maintained without variation. (Forest Plan, p. 32)

Off-road vehicle activities will be managed to minimize conflicts with other uses, prevent interference with the management of other resources, and prevent general environmental degradation while providing a range of ORV opportunities. The three wilderness areas and the Blue Range Primitive Area are closed to ORV use. (Forest Plan, p. 34)

Trails are closed to vehicle use unless signed open. (Forest Plan, p. 34)

Management of the recreation resource will emphasize maintenance of existing opportunities for solitude or a primitive and unconfined type of recreation in wilderness. (Forest Plan, p. 43)

### **Wilderness**

Administer to maintain the current wilderness character. In most issues between the biological wilderness resources and human preferences, the resource and its preservation will be given priority.

### **Visual Resources**

Manage and enhance visual resource values by including visual quality objectives in resource planning and management activities. (pg. 15)

### **Forestwide Standards and Guidelines**

Projects are planned to meet visual quality objectives. (Forest Plan, p. 35)

To meet specific resource management objectives, the following visual quality objectives variations are allowed for a management area:

- Preservation: No Change
- Retention: +\_ 2% foreground = -5% background and middle ground.
- Partial Retention: +5% foreground, +10% background and middle ground
- Modification/maximum Modification: +-10% in all zones

One classification movement downward is all that will be allowed.

Highly scenic areas on or near highways or recreation sites are managed as foreground retention without any variation.

Slight deviations from acceptable variations in visual quality objectives can only be considered on a case-by-case basis and only authorized by the forest supervisor. (Forest Plan, p. 36)

The visual quality objective for wilderness areas is preservation. (Forest Plan, p. 42)

## **Fisheries Resources**

### **Forestwide Standards and Guidelines**

Manage threatened and endangered animal, fish, and plant habitat to achieve declassifying in a manner consistent with the goals established by the U.S. Fish and Wildlife Service and the Arizona Game and Fish Department.

Implement threatened and endangered species recovery plans.

Monitor management practices within occupied and potential peregrine falcon, Apache trout, bald eagle, loach minnow, and Little Colorado River spinedace habitat, and evaluate impacts.

### **Wildlife Resources**

Maintain habitat to maintain viable populations of wildlife and fish species and improve habitat for selected species. This is accomplished “directly” through habitat management and “indirectly” through coordination of habitat management in conjunction with other resource activities. And to increase opportunities for wildlife and fish oriented recreation opportunities. (Forest Plan, p. 15)

As discussed in the biological assessment for this project, threatened and endangered species are currently protected under the Endangered Species Act. In addition, there are recovery plans for the Mexican spotted owl and Mexican gray wolf. Protections for sensitive species are found in the mitigations and project design features of the current forest plan as discussed in the biological evaluation.

MIS species are offered no specific protections as these species are not considered rare, with the exception of a few species that are also listed as TESP species (which are discussed in the BA and BE).

### **Historic and Prehistoric Cultural Values**

Forest Service policy (FSM 2361.3) requires that projects with the potential to affect cultural resources, including lands which will leave Federal agency control through sale or exchange, be surveyed for cultural resources in order to comply with 36 CFR 800 – Protection of Historic Properties, Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended; the Archaeological Resources Protection Act (ARPA) of 1979; the National Environmental Policy Act (NEPA); the Native American Graves Protection and Repatriation Act; and the American Indian Religious Freedom Act of 1978. The “Apache-Sitgreaves National Forests Forest Plan” standards and guidelines outline that identified sites will be evaluated for eligibility for the NRHP. As undertakings develop, the forest is required to complete the Section 106 process or follow protocol as established in any programmatic agreements with the State Historic Preservation Office.

### **Vegetation Values**

Forest plan goals for vegetation and botanical resources are largely limited to discussion related to timber and firewood production, and the relationship between vegetation and other resource areas (e.g. habitat for wildlife species, management of riparian areas, forage for livestock, etc.). There are no goals identified in the forest plan specifically for botanical resources.

Forest plan objectives for vegetation and botanical resources are similar to the goals. These are largely related to timber volume and firewood production and vegetation management practices used to reach desired timber stand attributes. There is some discussion of management practices that would reduce ground fuels and stimulate new growth of forbs and browse plants to benefit wildlife and livestock grazing, and seeding or planting browse and forb species in riparian habitats to benefit wildlife. There are no objectives identified in the forest plan specifically for botanical resources.

The forest plan directed that the river be studied from “the main stem of the Blue River from its confluence with the San Francisco River upstream to its confluence with McKittrick Creek in the Blue Range Primitive Area as a candidate stream for eligibility in the Wild and Scenic River System. Timber harvesting and new road construction are prohibited in the potential wild and scenic river corridor, one-quarter mile each side of the stream. Also, consistent with any outstanding rights, dams, diversions, or other water resource developments are also prohibited until the study is completed.” (Forest Plan, p. 30)

### **Range**

The 1987 “Apache-Sitgreaves National Forests Forest Plan” has been amended with 13 amendments through February 2008. Amendment one (August 1989) specifically “clarifies management for riparian areas” and amendment six (June 1996) contains standards and guidelines that implement development recovery plans for the Mexican spotted owl and also standards and guidelines for the continued protection of the northern goshawk. The forest plan (Management Area 3) recognizes KP Creek and the Blue River as Priority 1 for containing threatened and endangered species or habitat that is used by threatened and endangered species.

### **Fire Management**

Current forest plan direction for the Blue Range Primitive Area (Fire Management Zone VI) (Blue River segments 1 and 2, KP Creek) states “Fire is the primary management tool for maintaining and/or enhancing the primitive values of these areas.” “A systematic program of planned prescribed burning and/or wildland fire use for resource benefits may be undertaken to accomplish resource management objectives.” (Forest Plan, p. 92) “Appropriate management response will be taken on all man-caused fires as per other applicable standards and guidelines.” (Forest Plan, p. 87) “Mechanical line-building equipment is prohibited, except in extreme emergencies and with Regional Forester approval.” “Other motorized equipment or mechanical transport (helicopter, power saw, etc.) may be used with Forest Supervisor approval.” (Forest Plan, p. 92) Inventoried roadless areas have a similar management emphasis with limited motorized access and limited values at risk from fire. Current fire management direction indicates an appropriate management response will be taken on all fires within the roadless areas (eligible segments 1, 3 and 4) indicating the response to fires will be commensurate with values at risk and firefighter and public safety.

### **Additional Law, Regulation, and Policy**

Table 31 lists the existing authorities that apply to Federal and private lands within the eligible river corridors.

**Table 31. Current management authorities in eligible segments**

<b>Jurisdiction</b>	<b>Law, Regulation, Policy, Agreements</b>
Federal Lands	ASNFs Forest Plan
Federal Lands	Wild and Scenic Rivers Act
Federal Lands	Interim Management of Eligible or Suitable Rivers
Federal Lands	National Historic Preservation Act
Federal Lands	36 CFR 800 – Protection of Historic Properties
Federal Lands	Archaeological Resources Protection Act
Federal Lands	Native American Graves Protection and Repatriation Act
Federal Lands	American Indian Religious Freedom Act of 1978
Federal/Private Lands	Clean Water Act
Federal/Private Lands	Federal Water Pollution Control Act
Federal/Private Lands	Safe Drinking Water Act
Federal/Private Lands	Endangered Species Act, including recovery plans: <ul style="list-style-type: none"> <li>• Loach Minnow Recovery Plan</li> <li>• Spikedace Recovery Plan</li> <li>• Mexican Wolf Recovery Plan</li> <li>• Mexican Spotted Owl Recovery Plan</li> </ul>
Federal/Private Lands	State of Arizona Comprehensive Wildlife Conservation Strategy
Federal/Private Lands	State of Arizona Game and Fish Department – Hunting and Fishing Regulations
Private Lands	Rural (RU) zoning ordinances
Private Lands	2007 Floodplain Management Ordinance for Greenlee County
Private Lands	Greenlee County Comprehensive Plan

## Cooperative Plans

**Table 32. Cooperative plans applicable in study corridors**

<b>Cooperative Plan</b>	<b>Date</b>	<b>Cooperating Parties</b>
Greenlee County Community Wildfire Protection Plan for wildfire suppression	09/2005	USDA Forest Service, Greenlee County
Memorandum of Understanding for analysis of a fish barrier on Federal lands	07/02/2009	USDA Forest Service, Arizona Game and Fish Dept., USDI Bureau of Reclamation
Memorandum of Understanding for conservation and management of resources in Blue River	DRAFT 02/2010	U.S. Fish and Wildlife Service, Arizona Game and Fish Dept., USDA Forest Service, USDI Bureau of Reclamation, Greenlee County, Upper Eagle Creek Watershed Assoc.

# Appendix E – Present, Ongoing and Reasonably Foreseeable Future Actions

The activities and projects listed below in table 33 are those which are currently occurring in the Blue River watershed, or are proposed for future action. The past projects and activities are those which have already occurred and have contributed to the existing conditions in the watershed. The interdisciplinary team used the present, ongoing, and reasonably foreseeable actions when predicting the cumulative environmental effects of the alternatives (chapter 5).

A cumulative effect is the effect on the environment that results from the incremental effect of the action when added to the effects of other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of landownership on which the other actions occur. An individual action when considered alone may not have a measurable effect, but when its effects are considered in sum with the effects of other past, present and reasonably foreseeable future actions, the effects may be significant. Cumulative impacts are assessed in terms of how the proposed action would add to past, present and reasonably foreseeable activities.

The actions in table 33 occur within the cumulative effects analysis area, which is the Upper Blue and Lower Blue 5th code watershed. This scale encompasses all headwaters of the Blue and KP Rivers. Completing the cumulative effects analysis required each specialist to choose those activities from the list that overlaps in time, space and location with each alternative. The specialist then analyzed the incremental effect to their resource from the alternative when the proposed action was added to these activities.

**Table 33. Past, Present and Reasonably Foreseeable Actions**

No.	Project or Activity Name	Activity or Project Type	Status	Affected Area (or acres)
1	Campbell Flat RX Burn	Fuels reduction	Foreseeable - 2011	600 acres planned in Campbell Flats Meadow, west of Hwy. 191, T5N, R30E, Sec 31, East 1/2
2	Fire History	Unplanned ignitions originating within or adjacent to project area (1/4 mile boundary)	1988 to 2005	<b>Blue River:</b> (1) Sunflower Fire, 2005, 385 ac. within ¼ mile of project boundary <b>KP Creek:</b> (1) KP Fire, 2004, 16,092 ac.; (2) KP Fire, 2003, 10 ac.; (3) KP Fire, 2001, 17 ac.; (4) Thomas Fire, 2003, 10,644 ac.; and (5) Steeple Fire, 2003, 6,009 ac.
3	Campbell Blue WUI	Wildlife habitat and riparian restoration	Foreseeable in 2010	Lower Campbell Blue River along FRs 30 and 281 and around private holdings of the Luce and Kronkite Ranches: T4N, R32E, Sec 5; T41/2N, R31EW, Sec 25, 24-361 and T41/2N, R32E, Sec 31, 32, G&SRM
4	Bear Fire Trail Restoration	Trail realignment due to flooding	Foreseeable in 2010	Vicinity of Largo Creek drainage and Lanphere Creek drainage, T3N, 31E, S27, 35, and 34; T2N 31E, S3, and 10

Appendix E – Present, Ongoing, and Reasonably Foreseeable Future Actions

No.	Project or Activity Name	Activity or Project Type	Status	Affected Area (or acres)
5	Water diversions	Same	Ongoing	Variable
6	Black River Land Exchange – Rancho Alegre (1 of 2 parcels)	Acquisition of quality riparian and aquatic habitat and the associated road access (refer to the FEIS/ROD at <a href="http://www.fs.fed.us/r3/snf/projects">http://www.fs.fed.us/r3/snf/projects</a> )	Foreseeable – ROD signed in September 2009	79.76 acres acquired (Rancho Alegre parcel) along the west fork of the Blue River – equates to 0.25 mile stretch of river channel and 3 acres of wetland habitat along the river – accessed via FR 25.
8	Black River Land Exchange – Blue River Ranch parcel (2 of 2 parcels)	Acquisition of quality riparian and aquatic habitat and the associated road access (refer to the FEIS/ROD at <a href="http://www.fs.fed.us/r3/snf/projects">http://www.fs.fed.us/r3/snf/projects</a> )	Foreseeable – ROD signed in September 2009	158.68 acres acquired along the Blue River – equates to 1.50 miles of river channel and 55 acres of riparian habitat – accessed from the east and south via road 67004.
9	Fish barrier	Channel-spanning barrier to restore native fish to Blue River	Proposed	Located above San Francisco River on Blue River at river mile 0.76.
10	Transportation System	Forest maintenance of maintenance level (ML) 1, 2, 3, and 4 roads	Ongoing	85 miles per acre within or adjacent to Blue River analysis area: (3 miles ML 1 (closed); 28.8 miles ML 2 (high clearance); 53.2 miles ML 3, 4; and 0 miles ML 5). 9 miles within or adjacent to KP Creek analysis area: (1) 3 miles ML 1 (closed); 4.3 miles ML 2 (FR 184); 1.7 miles ML 3 (FR 55); 0 miles of ML 4 and 5 (Note FR 191 is not directly adjacent to analysis area).
11	Transportation System	Designated nonmotorized trails (no designated motorized trails within or adjacent to analysis area)	Existing	216 miles within/adjacent to Blue River corridor. 19.70 miles within/adjacent to KP Creek corridor: (1) North Fork KP Trail 93; (2) KP Trail 70; (3) Blue Lookout Trail 71; and (4) McKittrick Trail 72.
12	Travel Management Rule planning	Designation of motorized roads, trails and areas, see project information/maps at: <a href="http://www.fs.fed.us/r3/snf/projects">http://www.fs.fed.us/r3/snf/projects</a>	Foreseeable – potential changes to existing motorized transportation system	Preferred alternative has not been selected at this time. DEIS available by May 15, 2010.
13	Private property	Adjacent to the Blue River	Ongoing/foreseeable	1,367 acres in 14 parcels in Blue River segment 1. 0 acres along KP Creek.

Appendix E – Present, Ongoing, and Reasonably Foreseeable Future Actions

No.	Project or Activity Name	Activity or Project Type	Status	Affected Area (or acres)
14	Private property development	Recent new home construction with associated road construction (excavation, switchbacks)	Ongoing and foreseeable	Private property adjacent to Blue River Segment 1.
15	Road maintenance – associated activities	Permit new use of three existing gravel pits adjacent to FRs 281, 567, and 232.	Foreseeable - 2010	Exact acres undetermined at this time
16	FR 281/County Road 67004 annual road maintenance	Annual road maintenance includes blading, culverts and hazard tree removal	Ongoing	Annual maintenance on 36.2 miles *
17	Road improvements – FR 281	Install culverts and widen road in three places on curves to increase visibility	Foreseeable - 2010	Lower Blue Road, T2N, R30E, Sec 11, SE 1/4
18	Unauthorized motorized use	Non-system routes used to access Blue Primitive Area	Ongoing	Not quantifiable. Incursions primarily occur during hunting season.
19	Grazing Allotments	Livestock grazing within or adjacent to Blue River and KP Creek	Ongoing	Blue: Sandrock – 62,715 ac. Blue: Pigeon – 32,474 ac. Blue: Wildbunch – 23,039 ac. Blue: Bobcat-Johnson – 24,732 ac. Blue: Fishook/Steeple Mesa – 24,554 ac. Blue: Bush Creek – 317 ac. Blue: Cow Flat – 22,991 ac. Blue: Red Hill – 7432 ac. Blue/KP Creek: Raspberry – 24,117 ac. KP Creek: KP Summer – 21,030 ac.
20	Developed Recreation Use	Campgrounds, day use areas, trailheads (parking)	Ongoing	<b>Blue River:</b> Blue Crossing CG, Upper Blue CG, Blue Admin TH, Sawmill TH, Tutt Creek TH, Grant Creek TH, Steeple TH, Horse Canyon TH, Blue River TH <b>KP Creek:</b> KP Cinega TH, KP TH
21	General Recreation Use	Fishing, viewing scenery, dispersed day and overnight use	Ongoing	See 2009 eligibility report

\* Best management practices for road maintenance along the Blue River have been utilized for all maintenance projects since 1995.

NOTE: There is no Project 7.



# Appendix F – Effects of Managing a River as a Component of the NWSRS v. 042607

The management responsibilities associated with a designated wild and scenic river (WSR) are explained in detail in the Interagency Wild and Scenic Rivers Coordinating Council's (council) technical report, "Wild and Scenic River Management Responsibilities" (March 2002). The following discussion is excerpted from this source document and describes the effects of managing a river as a component of the National Wild and Scenic Rivers System (National system), based on the direction in the Wild and Scenic Rivers Act (act).

The intent of each section of the act relevant to management of WSRs is briefly presented, followed by specific management implications.

## Purposes (WSRA Section 1(b))

The purposes for which WSRs are added to the National system are to protect the river's free-flowing condition, water quality, and outstandingly remarkable values (ORVs). Sections 7(a) and 10(a) make reference to these collective "values" for which rivers are added to the National system.

## Management Implications

- Focus the comprehensive river management plan (CRMP) and subsequent river management on protecting a river's free-flowing condition and water quality in addition to the ORVs.
- Thoroughly define the ORVs to guide future management actions and to serve as the baseline for monitoring.

## Classification (WSRA Section 2(b))

The classification system describes the type and intensity of development in existence at the date of the river's designation. To be "administered" in a class means defining the river's initial landscape character and, through development of the CRMP, establishing standards relative to future in-corridor land uses. For example, administering a wild river will require more restrictive decisions to protect the river's character than on a scenic or recreational river. However, it must be emphasized that the intent of the act, to preserve a river's free-flowing condition (Section 7(a)) and to protect and enhance the values for which it was designated (Section 10(a)), applies equally to each of the three classifications.

A river's classification does not represent the values for which it was added to the National system. For example, a "recreational" river segment denotes a level of in-corridor and water resources development and does not necessarily mean that the recreation resource has been determined an ORV. Similarly, a recreational classification does not imply that the river will be managed for recreational activities. For example, there are rivers in the National system paralleled by a road and hence classified as "recreational" for which the ORV is the fish resource. An appropriate intensity of recreation and other resource use will be allowed subject to an ability to protect and enhance those fish populations/habitats.

## Management Implications

- Describe a river’s classification and landscape character at the date of designation in the CRMP to serve as the basis for evaluating proposed land uses and monitoring.
- Use classification to provide a general framework for the type and intensity of land management activities that may take place in the future.
- Consider allowing uses in existence at the date of designation that do not conform to the river’s classification and that are not specifically addressed in the enabling legislation to continue, so long as the river’s free-flowing condition, water quality, and ORVs are protected.
- Apply the protections under Sections 7 (water resources projects) and 10(a) (nondegradation policy) independent of classification.

## Establishment of Boundaries and Classification (Sections 3(b) and 3(c))

The act requires that each federally administered river in the National system have a legally established boundary. Congress has, in a few instances, specified the boundaries for a river in the designating legislation. Generally, however, this responsibility is left to the managing agency to be completed following designation. This section requires the administering agency to establish a detailed boundary of not more than 320 acres of land per river mile within 1 year of the date of designation. For the significant majority of rivers in the National system, Congress has included the classification in the designating legislation.

The notice of availability of the boundaries and classification (if not included in the amendatory act) must be published in the Federal Register and transmitted to Congress. Refer to “Establishment of WSR Boundaries,” a technical report of the council (September 1998), for additional discussion of developing a boundary that provides necessary protection for identified values.

## Management Implications

- A bank-to-bank boundary is unacceptable (refer to “Establishment of WSR Boundaries” for a more detailed discussion).
- Use a river’s ORVs as the basis for boundary establishment. They must be sufficiently described and properly referenced in establishing a detailed boundary for the river.
- The final WSR boundary is not required to be posted or otherwise located on the ground.

## Management Plan (Section 3(d)(1))

The act requires a “comprehensive management plan . . . to provide for protection of the river values” (Section 3(d)(1)). The CRMP must address: resource protection; development of lands and facilities; user capacities; and other management practices necessary or desirable to achieve the purposes of the act.

The comprehensive river management plan (CRMP) is to be coordinated with, and incorporated into, a river administering agency’s resource management plan. The act provides 3 full fiscal

years after the date of designation for its completion and requires a notice of its completion and availability be published in the Federal Register.

### **Management Implications**

- A CRMP is required for all congressionally designated WSRs.
- Include a detailed description of the ORVs as a platform for development of necessary management direction in the CRMP.
- Address the types and amounts of public use the river area can sustain without adverse impact to other values in the CRMP (interagency guidelines).
- Review and revise, as necessary, pre-1986 CRMPs to include all elements described in Section 3(d)(1).
- Prior to the completion of a CRMP, thoroughly analyze the effects of a proposed activity on the values for which the river was designated.

### **Acquisition Procedures and Limitations (Sections 6(a)(1) through 6(g)(1)-(3))**

This section describes procedures and limitations for acquisition of lands and interests in lands by Federal managers on congressionally designated WSRs. Acquisition of lands (fee-simple) or interests in lands (easements) from willing sellers is an appropriate tool in select circumstances on some rivers. Note: The provisions of Section 6 do not apply to rivers added under Section 2(a)(ii). Refer to “Protecting Resource Values on Non-Federal Lands,” a technical report of the council (October 1996) for discussion of nonacquisition strategies for protecting river values.

### **Management Implications**

- Establish general principles for land acquisition in the CRMP (interagency guidelines) where appropriate. Consider acquisition of lands or interests in lands to provide resource protection and access, and to facilitate appropriate recreation use.

### **Restrictions on Hydroelectric and Water Resources Projects (Section 7(a))**

This section is one of the most important and powerful parts of the act, directing Federal agencies to protect the free-flowing condition and other values of designated rivers. More specifically, the act prohibits the Federal Energy Regulatory Commission (FERC) from licensing the construction of hydroelectric facilities on rivers that have been designated as components of the National system. Further, the act prohibits other Federal agencies from assisting in the construction of any water resources project that would have a direct and adverse effect on a designated river. The act also includes a standard that governs water resources projects below, above or on a stream tributary to a designated river or congressionally authorized study river. Determinations under Section 7(a) or 7(b) are made by the river administering agency.

Refer to the “Wild and Scenic Rivers Act: Section 7,” a technical paper of the council (May 1997), for a discussion of standards and presentation of procedures to evaluate the effects of proposed water resources projects. The Department of Agriculture has regulations governing the applicability of Section 7 at 36 CFR Part 297.

## Management Implications

- The Secretary of Agriculture or the Interior (or his/her designee) is responsible for making determinations under Section 7.
- Evaluate a water resources project based on its effects on the values for which a river is added to the National system, namely its free-flowing condition, water quality, and ORVs. The river's classification is not a factor in this evaluation.
- FERC licensed facilities are prohibited within a designated river corridor. Other federally assisted water resources projects within a designated river corridor are evaluated as to their potential "direct and adverse effect" on the values for which the river was designated. Proposed water resources projects below, above, or on a stream tributary to a designated river are evaluated as to their potential to invade the designated river area or unreasonably diminish the scenic, recreational, fish, or wildlife values of the designated river.
- Include direction in the CRMP to evaluate a water resources project under Section 7(a). It is also helpful to provide reference to, or include, the evaluation procedures in the CRMP (or appendix).

## Limitations on Entry on Public Lands (Section 8(a))

This section requires all public lands within a WSR corridor to be retained in Federal ownership, with allowances for exchange as conditioned in Section 6(d) and lease of Federal lands as described in Section 14(A).

## Management Implications

- Consider the potential for exchange in establishing general principles for land acquisition in the CRMP.

## Limitations on Mineral Entry (Section 9(a))

In areas where mineral activity is permissible, the CRMP should address locatable, leasable and salable mineral materials. Locatable minerals are "valuable mineral deposits" located under the General Mining Law of 1872, as amended, and include, for example, gold, silver, copper and lead. Leasable minerals are defined by statute (e.g., oil, gas, coal, geothermal); a lease must be obtained from the government for their extraction. Salable minerals are disposed of by permit and consist, for example, of common varieties of sand, stone and gravel. Leasable and salable mineral activities are discretionary on the part of the administering agency.

The act affects the development of Federal minerals in several ways. First, subject to valid existing rights (i.e., subject to existing mining claims and mineral leases), the minerals located on Federal lands within the bed or banks or within 1/4 mile of the banks of any designated "wild" river are withdrawn from all forms of appropriation under the mining laws and from the operation of the mineral leasing laws. Second, subject to valid existing rights (i.e., subject to mining claims where the claimant has filed a proper patent application and paid the required fees prior to the river's designation), mining claimants may only obtain title to the mineral deposits and such rights to the use of the surface and surface resources as are reasonably required for prospecting or mining. Third, the act requires regulations be developed to govern mining and mineral leasing activities in WSR corridors. While the Secretaries of the Interior and Agriculture have not issued

these regulations, the BLM and USFS use their existing regulations (43 CFR 3809 and 36 CFR 228, respectively) to meet, to the extent possible, the nondegradation standard of Section 10(a).

### **Management Implications**

- Provide direction for discretionary mineral activity in the CRMP, as appropriate.
- Consider the opportunity to recommend a withdrawal of scenic and recreational river segments from the General Mining Law of 1872, as amended through the river planning process, as appropriate. Such a recommendation, however, will require a detailed analysis of the values to be protected and rationale for the recommendation. This proposal should be closely coordinated with the BLM, the agency responsible for mineral withdrawal.

### **Management Direction (Section 10(a))**

The interagency guidelines interpret Section 10(a) as a “nondegradation and enhancement policy for all designated river areas, regardless of classification.” Existing uses on Federal lands may continue where they do not conflict with river protection. Adverse effects to the values made explicit in Section 1(b) of the act on Federal and non-Federal lands must be identified in development of the CRMP, with appropriate strategies detailed for their resolution. To achieve a nondegradation standard, the river administering agency must document baseline resource conditions and monitor changes to these conditions.

### **Management Implications**

- This section is interpreted as a nondegradation and enhancement policy for all rivers, regardless of classification (interagency guidelines). The river manager must seek to protect existing river-related values and, to the greatest extent possible, enhance those values.
- Provide for public recreation and resource uses that do not adversely impact or degrade the values for which the river was designated (interagency guidelines).
- Protect rivers by documenting and eliminating adverse impacts on values (free flow, water quality, ORVs), including activities that were occurring on the date of designation. Enhance rivers by seeking opportunities to improve conditions.

### **Management of WSRs in Wilderness (Section 10(b))**

Section 10(b) removes the potential for conflict on WSRs flowing in designated wilderness by applying the more restrictive provisions of the WSRs or Wilderness Acts in any situation of conflict. This section recognizes the importance of designating river “systems” by removing any potential for conflict in dual designations.

### **Management Implications**

- River managers must be familiar with provisions of both acts when developing the CRMP.

## **WSRs Administered by the USDA Forest Service (Section 10(d))**

This section provides the USFS the authority to use its general statutory authorities to protect WSR values. Some of the most important laws applicable to the USFS include the Organic Administration Act, Multiple Use-Sustained Yield Act, and National Forest Management Act.

This section also allows the USFS to require special use permits for all commercial guiding services on WSRs flowing through Federal or private lands. The authority is codified in regulation (36 CFR, Part 261), with its scope defined as “an act or omission” within the designated boundaries of a component of the National Wild and Scenic Rivers System. Specifically, Section 261.10(c) prohibits conducting any business activity within the boundaries of a WSR “unless authorized by Federal law, regulation, or special-use authorization.” If use regulation is necessary to protect river values, Section 261.58(z) allows the USFS to prohibit by order “entering or being on lands or waters within the boundaries of a component of the National Wild and Scenic Rivers System.”

Requiring special use permits for commercial guides and, as appropriate, nonregulatory or regulatory permits for private on-river and/or in-corridor river use allows the USFS to provide a level of public safety, to maintain a desired recreation experience, and to protect biological and physical values. On-river limitations may include, for example, restrictions on the numbers of private and commercial boaters, timing of use, and type and size of craft. In-corridor limitations may include, for example, restrictions on party size, timing of use, and type of activities.

### **Management Implications**

- Apply general statutory authorities, in addition to the requirements of the act, to protect WSR values.

## **Cooperative Agreements (Section 10(e))**

This section encourages a Federal-state partnership in WSR administration. It recognizes the benefits from collaborative development and implementation of a CRMP and the role of state and local government in directing activities on non-Federal lands (e.g., water pollution abatement, zoning). Refer also to Section 12(a) of the act that directs Federal agencies to, where appropriate, enter into written cooperative agreements with the state river administering agency for the management of Federal lands within the boundaries of a state administered (Section 2(a)(ii)) river.

### **Management Implications**

- Identify opportunities in the CRMP for the river administering agency to effect specific written cooperative agreements in administration of a WSR.

## **Federal Assistance to Others (Section 11(b)(1))**

This section authorizes the Secretary of the Interior, the Secretary of Agriculture, or the head of any Federal agency to provide technical (i.e., nonmonetary) assistance and the use of agency funds to states, their political subdivisions, private organizations, and individuals to “plan, protect, and manage river resources.” This authority applies to projects/activities on non-Federal lands within and proximate to a WSR corridor. It provides a mechanism to effect partnerships for projects/activities distant from the designated WSR yet with the potential to affect designated

WSR values. Opportunities for such partnerships should be identified in the CRMP and implemented through a properly documented written agreement to assure the public's interests and the private landowner's rights are protected.

### **Management Implications**

- Identify opportunities in the CRMP for the river administering agency to effect specific written cooperative agreements in administration of a WSR.

### **Management Policies (Section 12(a))**

This section applies to activities conducted by a Federal department or agency that are within or proximate to a WSR designated under Sections 2(a)(ii) or 3(a). It also applies to rivers under study pursuant to Section 5(a) and to rivers being considered pursuant to Section 2(a)(ii). Through the language of this section, Congress directs other Federal agencies to protect river values in addition to meeting their agency mission. Refer to “Implementing the Wild and Scenic Rivers Act: Authorities and Roles of Key Federal Agencies,” a technical report of the council (January 1999), for a description of the authorities of other Federal agencies in river protection.

### **Management Implications**

- In addition to preparing a CRMP for lands within the river corridor, the river-administering agency must consider actions on lands it administers adjacent to this area and make certain such actions protect WSR values.
- Other Federal agencies must protect WSR values in actions for which they are responsible within and adjacent to a WSR corridor.

### **Existing Rights (Section 12(b))**

Section 12(b) qualifies that nothing in Section 12(a) is to be construed to eliminate existing rights or privileges affecting Federal lands without the owner's consent.

### **Management Implications**

- Consider existing rights or privileges affecting Federal lands when evaluating management actions on lands within or adjacent to the river corridor administered by the river administering agency or other Federal agency.

### **Water Pollution (Section 12(c))**

Section 12(c) directs the river administering agency to cooperate with the U.S. Environmental Protection Agency (EPA) and state water quality agencies in addressing water quality concerns in WSRs. Cooperation requires active participation by the river administering agency in evaluation of existing water quality, identification of limitations, and development of the often long-term strategies necessary to address water quality related problems.

### **Management Implications**

- Seek enforcement of water quality laws through the EPA and state water quality agencies.

- Work in cooperation with the EPA and state water quality agencies to establish baseline conditions, identify water quality related issues, and develop a strategy to improve/protect water quality.

## **Jurisdiction and Responsibilities of State with Respect to Fish and Wildlife (Section 13(a))**

This section clarifies that the role of the states in management of fish and wildlife is unaffected by the act. The river administering agency remains responsible, however, for evaluation of components of fish or wildlife restoration or enhancement projects that are also water resources projects and subject to Section 7(a) of the act. In most instances, such projects would have a beneficial effect on WSR values; however, they must be designed to avoid adverse effects on free flow and other river related values.

### **Management Implications**

- Develop an effective partnership with state fish and wildlife agencies to achieve mutual goals in river protection.

## **Federal Reservation of Water (Section 13(c))**

This section expressly reserves the quantity of water necessary to achieve the act's purposes, including protecting the values for which a river is designated.

### **Management Implications**

- Describe the dependency of ORVs to flow in the CRMP.
- Establish baseline conditions, identify water quantity related issues, and develop a strategy to protect flow-dependent ORVs.

## **Interstate Compacts (Section 13(e))**

This section clarifies that interstate compacts are unaffected by the act.

### **Management Implications**

- Determine if an interstate compact exists and identify its tenets.

## **Navigable Rivers (Section 13(f))**

Section 13(g) clarifies that nothing in the act affects a state's rights to navigable waterways. A body of water is determined to be navigable under Federal law when, at the time of statehood, it was used or was capable of being used as a public highway for transporting goods or for travel in the customary modes of trade and travel on water (the Daniel Ball case, U.S. Supreme Court). State ownership of the underlying riverbed does not, however, preclude the river administering agency from regulating uses (e.g., private and commercial boating) on the water column as necessary to meet the purposes of the act. The need to regulate on-water use includes providing a level of public safety, maintaining a desired recreation experience, and protecting biological and

physical values. On-river limitations may include, for example, restrictions on the numbers of private and commercial boaters, timing of use, and type and size of craft.

### **Management Implications**

- Work in partnership with the state to assure that the state’s public trust interest in navigability and the purposes of the act are met.

### **Easements and Rights-of-Way (Section 13(g))**

An easement or right-of-way may be granted within the boundary of a WSR, subject to conditions to protect values.

### **Management Implications**

- Evaluate any component of a project proposal requiring an easement or right-of-way that is a water resources project under Section 7(a) of the act prior to further consideration of the easement/right-of-way.
- Grant an easement or right-of-way subject to the nondegradation policy of Section 10(a) and if it is in accordance with all laws applicable to the area.



# Appendix G – Costs of Administering as a Wild and Scenic River

There are three cost categories associated with designation: (1) administration and operation (annual river-related costs), (2) river planning (i.e., CRMP development), and (3) land acquisition<sup>6</sup>.

## Administration, Operation, and CRMP Development

Costs for administration and CRMP development are a function of complexity factors related to recreation use, ownership, and resource issues associated with the designated river(s). A range of complexity scores was determined for the Blue River and KP Creek segments in aggregate, recognizing the variation in complexity across alternatives.

Based on an aggregate complexity rating of low to moderate (skewed toward low) for the Blue River and KP Creek segments, as well as past reviews of costs associated with river designations<sup>7</sup>, final approximated costs are estimated to range from \$35,000 to \$50,000 per year for administration and \$175,000 to \$250,000 total cost spread over a 3-year period for planning and CRMP development (2008 dollars).

All Blue River and KP Creek segment corridors being considered for designation under the alternatives are within national forest lands, with the exception of the 7.7 miles of segment 1 that flow through private land parcels. Consequently, there is no expectation that administrative involvement by other agencies (state or local) will occur, implying that the Forest Service will not be sharing administrative and CRMP development costs<sup>8</sup>.

## Land Acquisition

Based on the information summarized in the land/land values section above, purchases, exchanges, or acquisitions of easements on private land are not currently projected under any of the alternatives. Consequently, costs to the Forest Service are currently assumed to be zero for this cost category.

Costs procedures are drawn from and outlined in “Developing Costs for Administration of Forest Service Administered Wild and Scenic Rivers” ( July 10, 2001) as well as “Estimated Costs of Wild and Scenic Rivers Program, V.091104”, as cited in the suitability study conducted for rivers in Utah (USDA Forest Service, 2008). The table below describes the factors and issues that can be used to make complexity determinations.

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<sup>6</sup> For details about costs and procedures for estimating costs for administration and planning in this analysis see “Developing Costs for Administration of Forest Service Administered Wild and Scenic Rivers” ( July 10, 2001) as well as “Estimated Costs of Wild and Scenic Rivers Program, V.091104”. These procedures were adopted from the costing analysis completed for the suitability study conducted for rivers in Utah (USDA Forest Service, 2008).

<sup>7</sup> See “Estimated Costs of Wild and Scenic Rivers Program V.091104” as cited in the recent Utah rivers suitability evaluation (USDA Forest Service, 2008)).

<sup>8</sup> Personal communication with J. Diedrich, USDA Forest Service, WO/National Wild and Scenic River Program Manager, 2/11/2010.

**Enclosure 1  
Complexity Table**

Complexity Factor	Low	Moderate	High
<b>Recreation Use</b> - Regulate use/ permit system - Commercial use - Multiple types of recreation activities (e.g., on-river motorized/ nonmotorized use)	- Limited recreation use - Management standards within acceptable range - Private use only - No to limited recreation use conflict if different types of recreation activities take place	- Moderate recreation use - Some management standards approaching or exceeding acceptable range - Limited conflict if different types of recreation activities take place	- Regulated on-river or in-corridor use - Complex (perhaps multi-river) permit system. - Considerable commercial use - Conflicts between different types of users or complicated use schemes utilized to minimize conflict
<b>Ownership</b> - Public land - Multiple federal or state jurisdiction - Private land	- National Forest System lands - NFSL within protective land allocation (e.g., wilderness)	- Intermingled ownership with other federal or state managers and limited private lands	- Complex ownership pattern including private lands - Development potential
<b>Resource Issues</b> - Water Quality - Instream Flow - Riparian and upland vegetation - Watershed restoration - Aquatic species and habitat (TES) - Terrestrial species and habitat (TES) - Livestock grazing - Heritage Resources - Mining - Etcetera	- Headwaters system with limited management actions necessary to address resource issues	- System with management actions necessary to address resource issues	System with considerable management actions necessary to address resource issues

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For the combined Blue River and KP Creek segments, the following assumptions were adopted to make a complexity determination for the Blue River/KP Creek corridors:

### Recreation Use – Low to Moderate Complexity

- Multiple Uses – Moderate Complexity (variety of recreational activities across the segments and within some segments; primitive settings may reduce complexity for segment 2 and parts of other segments).
- Commercial Activities – Low to moderate complexity (some licensed outfitters and guides, some campgrounds in segment 1).

- Need for regulation/permitting – Low complexity (extensive permitting not expected to be needed).

### **Ownership – Low Complexity**

- Segments are primarily located within national forest lands with the exception of the upper portion of segment 1 of the Blue River. Low expectation for the need for easements (title purchases very unlikely).

### **Resource Issues – Moderate Complexity**

- Fish/aquatic life – Moderate to high complexity (emphasis on restoration of native fish populations, habitat crucial to many fish/aquatic species).
- Wildlife – Low to moderate complexity (some threatened/sensitive species; maintenance of wildlife travel corridors; important bird habitat area).
- Historical/Cultural – Moderate complexity (relatively large number of historic and prehistoric sites within the corridors).
- Riparian/Watershed – Moderate to high complexity (historically a flood prone area with continuing concerns about floods and riparian protection; watershed restoration a focus in segments 2 and 3 (MA 18 = recovery of watershed).
- Livestock/grazing – Low to moderate complexity (few existing allotments, some evidence of diversions for agriculture/grazing purposes; past history of grazing).
- Mining/minerals – Low complexity.
- Timber – Low complexity.

Based on the complexity assumptions above, an aggregate complexity rating for the Blue River and KP Creek segments is assumed to be low to moderate (skewed toward low).

Past reviews of costs for rivers of varying complexity have been used to estimate ranges of annual costs for administration: \$25,000 (low complexity) to \$50,000 (moderate complexity) to \$200,000 (high complexity) per year (2001 dollars); total costs over a 2- to 3-year period for CRMP development were estimated to range from \$100,000 to \$300,000 (2001 dollars) (see “Estimated Costs of Wild and Scenic Rivers Program v. 091104”). Based on these cost ranges, the aggregate complexity rating above, and variation in number of segments designated across alternatives, annual administrative costs are estimated to range from \$35,000 to \$50,000 in 2008 dollars. Total CRMP costs are estimated to range from \$175,000 to \$250,000 spread over a 3-year period.

This costing procedure applies to the aggregate river component, comprised of the multiple segments being designated (personal communication: J. Diedrich, USDA FS, WSR Program Manager).